Summary
An Evaluation of Maine's Comprehensive School-based Youth Suicide Prevention Program

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Maine Youth Suicide Prevention Program
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Table of Contents

Introduction

In Maine, suicide is the 2nd leading cause of death for youth aged 15-24, and the 3rd leading cause of death for youth aged 10-14. In 1997, out of concern for the well-being of Maine's children, the Governor's Children's Cabinet facilitated the creation of the Maine Youth Suicide Prevention Program (MYSPP). The MYSPP is directed by staff of the Maine Center for Disease Control and Prevention in the Department of Health and Human Services. The MYSPP created a plan with input from a wide variety of professional and clinical subject matter experts, suicide survivors, and youth throughout the state. Implementation began in 1998 involving every department that was a member of the Children's Cabinet. A steering committee was formed to advise the implementation of the program plan.

At the time of this grant based program, among the activities of the MYSPP were: (1) training and education programs in youth suicide awareness; (2) development and dissemination of school protocol guidelines to help schools write their own protocols for suicide prevention and intervention; (3) training "Gatekeepers" as key persons in schools to receive first referrals of students thought to be at risk for suicide; (4) providing technical assistance to school personnel facing suicide in their schools; (5) training school health teachers to deliver Lifelines student lessons; (6) training instructors to facilitate the Reconnecting Youth program designed for youth demonstrating risk behaviors often associated with suicide and; (7) tracking suicide and self-inflicted injury data.

To study implementation of these components of their suicide prevention, intervention, and postvention work, MYSPP applied for and received a three-year grant from the Center for Disease Control and Prevention (CDC) in 2002, one of two such grants in the nation. Maine was already a national leader in the field of youth suicide prevention, having developed a comprehensive plan containing a set of recommendations for school action. The intent of the CDC-funded project, which is the subject of this overview, was to go beyond the writing and dissemination of recommendations to actually implementing and evaluating a comprehensive school-based approach to youth suicide prevention, intervention, and postvention. Twelve Maine high schools were competitively selected to participate in the project. The MYSPP wanted to evaluate to what extent a varied selection of Maine schools were able to implement the recommended programs. Schools were given technical assistance, training, and small grants to

cover some of the expenses that would be incurred. The program was intended to increase the schools' readiness and capacity to:

- Identify, refer, and support youth at risk for suicide, and
- Manage the crisis precipitated by a student suicide attempt or completion, to provide support to students and staff for grieving, and lessen the potential for additional suicidal behavior.

The CDC-funded project had two unique aspects. First, it brought together a variety of recommended and research-based initiatives to address youth suicide, and examine their implementation as a comprehensive program in schools, instead of implementing isolated elements. Second, it sought to identify and describe project facilitators' challenges in establishing such programs in real schools with real competing demands for staff time, attention, and resources. The schools were a mix of urban (by Maine standards) and rural, from resource-rich and resource-poor areas, from all geographic areas of the state, with varying types of school-based health and mental health programs, and with varying prior experience and preparation in dealing with youth suicide and related crises.

Project Description

In 2002, before the proposal to CDC was written, the newly developed Maine Youth Suicide Prevention, Intervention, and Postvention Guidelines (the Guidelines), a one inch thick notebook of guidelines for school administrators to use in developing school procedures or protocols, was distributed to all high school administrators in Maine by the Maine Centers for Disease Control and Prevention (Maine CDC). The Guidelines were developed by program staff in collaboration with education leaders at the state and local levels in Maine.

The project funded by CDC allowed the MYSPP and its contractors to provide technical support and training to 12 Maine high schools to enable them to implement the Lifelines Program, a promising research-based program for schools (Kalafat & Ryerson, 1999, and Kalafat, Underwood, & Ryerson, 2001). The Lifelines Program offers a comprehensive approach, designed to build a competent school community that is equipped to address the complex nature of suicide risk. In addition to funding to implement the Lifelines Program, six high schools received funding to implement Reconnecting Youth: A Peer Group Approach to

Building Life Skills, (Eggert, Thompson, & Herting, 2000; and Thompson, Eggert, Randall, & Pike, 2001).

Project Components

   The Youth Suicide Prevention and Intervention Project implemented in project schools included the following components:

1. Development of school-specific suicide prevention, intervention, and postvention protocols consistent with the Maine Youth Suicide Prevention Program Protocol Guidelines.

2. A written Memorandum of Agreement between the school and local crisis service providers.

3. Participation in full-day Gatekeeper training for selected school staff.

4. Training at least two Gatekeepers from each school to present awareness education sessions for their colleagues.

5. A suicide prevention awareness training for all school personnel as well as parents and community members.

6. Delivery of the Lifelines student lessons for students within comprehensive health education classes.

7. In six of the twelve selected schools, offering the Reconnecting Youth curriculum for at risk students

The project components were designed to be implemented in the order in which they are listed to ensure that the school is adequately prepared to respond to students at risk.

Technical Assistance

   Participating schools received considerable technical assistance from the Maine CDC or its contractors at Medical Care Development, Inc., for implementing the project components. The State Coordinator closely monitored implementation and training in the schools, provided model documents and materials, and reminded and supported schools in meeting project expectations. In addition, school personnel could, and did, avail themselves of help if a suicide or other student death crisis arose in their communities. Technical assistance was available to all schools in Maine (and used by some), but only upon request.

Participating Schools

Twelve schools that responded to the request for proposals issued by the MYSPP sent to all Maine high schools were selected to participate in the project. The schools were diverse in nature and included both urban and rural, with a wide range in the number of enrolled students. Some had school-based health centers and/or school-based mental health services, while others had no health related services other than the typical services provided by a school nurse. Some schools were based in, or close to, communities with an array of social services, while others had very limited services available and were geographically removed from communities where social services were available. The table below provides information on selected characteristics of each participating school.

Table 1. Demographics of Project High Schools

Assigned School Code	Attending Enrollment 2003-2004	[1]Median Household Income	Per Pupil Cost 2002-2003	Student - Teacher Ratio	% Free-Reduced Lunch
1	<300	$36,654	$6,559	18	22
2	>800	$35,650	$8,038	17	42
3	>800	$46,883	$6,846	15	19
4	501-800	$27,639	$7,361	16	40
5	501-800	$36,372	$8,468	17	25
6	501-800	$43,000	$7,799	13	13
7	301-500	$36,746	$9,314	13	35
8	301-500	$26,212	$5,924	13	38
9	501-800	$53,337	$6,842	16	14
10	<300	$24,623	$8,164	14	46
11	501-800	$32,400	$7,528	14	32
12	<300	$33,472	$5,924	16	42

SOURCE: Legislative Districts Education Report, 2005. Maine Education Policy Research Institute, College of Education and Human Development, University of Maine.

Twelve schools, similar in demographics to project schools, were selected to participate as comparison schools in the project. The following table provides information on selected characteristics of each comparison school.

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[1] Applies to the town in which the high school is located - does not include sending towns sending students to the school.

Table 2. Demographics of Comparison High Schools

Assigned School Code	Attending Enrollment 2003-2004	[2]Median Household Income	Per Pupil Cost 2002-2003	Student-Teacher Ratio	% Free-Reduced Lunch
10	501-800	$48,893	$8,183	14	16
11	>800	$50,914	$7,980	16	7
1	501-800	$30,209	$7,224	17	22
13	301-500	$30,528	$7,157	15	43
14	>800	$42,770	$8,770	17	11
16	<300	$30,338	$5,495	14	32
17	<300	$29,547	$6,580	16	40
18	301-500	$38,115	$7,744	13	n/a
19	501-800	$46,207	$6,284	14	9
21	>800	$47,682	$7,286	16	n/a
22	501-800	$34,830	$7,168	16	27

Project Evaluation

The Maine Youth Suicide Prevention Program, in the Maine Department of Health and Human Services, Maine Center for Disease Control and Prevention, contracted with the Center for Research and Evaluation of the College of Education and Human Development at the University of Maine, to lead the project evaluation. The Center subcontracted with the Institute for Public Sector Innovation of the Edmund S. Muskie School of Public Service at the University of Southern Maine for a research associate's time to assist with the evaluation. This report is an overview of the results of the multi-method evaluation of the comprehensive school-based youth suicide prevention and intervention Project funded by the Center for Disease Control and Prevention.

Evaluation Questions and Design

The evaluation focused on assessing schools' implementation of the project components, outcomes of these project components, and the overall impact of the comprehensive approach on a school's readiness to identify and respond appropriately to youth at risk. Key evaluation questions follow:

1. Does implementation of the Lifelines Program, along with technical assistance, increase a school's readiness to prevent suicide, intervene in a crisis and manage the school environment after a suicide crisis?

2. Does Gatekeeper training have an impact on comfort and confidence to intervene with a potentially suicidal youth?

3. Does the implementation of Maine Youth Suicide Guidelines and the Lifelines Program increase the number of youth referred for mental health services?

4. Do the Lifelines student lessons result in increased knowledge, attitudes, and intention to intervene on the part of a peer?

5. What are the best conditions for implementing Reconnecting Youth (RY); which parts of the project work well and which don't; and what is the impact of RY on student performance and substance awareness?

In an effort to answer these questions 12 high schools were recruited to serve as comparison schools. One school withdrew from the project in year two when a new superintendent implemented a policy, which restricted district schools' involvements in outside

assessments, surveys or evaluations. Demographics for the remaining 11 comparison schools are described in Table 3. The inclusion of these schools enabled evaluators to examine the extent to which project schools (that had received grant funds, training and technical assistance to implement a comprehensive coordinated approach to youth suicide prevention and intervention) were able to identify and respond to students at risk, as compared to schools that had only received a copy of the youth suicide prevention Protocol Guidelines which were distributed to all Maine middle and high schools.

Table 3. Demographics of Comparison High Schools

Assigned School Code	Attending Enrollment 2003-2004	[3]Median Household Income	Per Pupil Cost 2002-2003	Student-Teacher Ratio	% Free-Reduced Lunch
13	501-800	$48,893	$8,183	14	16
14	>800	$50,914	$7,980	16	7
15	501-800	$30,209	$7,224	17	22
16	301-500	$30,528	$7,157	15	43
17	>800	$42,770	$8,770	17	11
18	<300	$30,338	$5,495	14	32
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SOURCE: Legislative Districts Education Report, 2005. Maine Education Policy Research Institute, College of Education and Human Development, University of Maine.

Data Collection Methods

A variety of data collection methods, including both quantitative and qualitative methods, were employed to explore these evaluation questions. Methods included interviews with key school staff, surveys of all school staff, tracking of students identified as potentially at risk for suicide, and document analysis of suicide prevention, intervention, and postvention protocols. Details of the design and methods used to evaluation each project component are described in the related sections of this report.

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[3] Applies to the town in which the high school is located -does not include all sending towns sending students to the school.

Implementation Assessment

At the time of this project, the Maine Youth Suicide Prevention Program (MYSPP) had been offering ongoing training for schools and communities. This grant presented the first opportunity for the MYSPP to support the implementation of a comprehensive school based approach to youth suicide prevention and intervention. Therefore, it was critical that the evaluation explore the process, facilitators and barriers to implementation of this approach in the context of schools and school life. The implementation evaluation assessed the extent to which schools integrated each component of the comprehensive approach, the challenges they faced, and the strategies used to address the challenges, and what facilitated successful implementation of the project components.

Evaluation Methods

The implementation evaluation relied on an instrument entitled the "Readiness Rubrics." This instrument was created specifically for this project by University of Maine evaluators prior to implementation. The instrument consisted of 11 rubrics (or scales) that were based on an Innovation Configurations Component checklist used to examine the implementation of programs (Hall & Hord, 1987). The instrument underwent a series of clarifying revisions as the project progressed. Each of the 11 rubrics measured a project component that schools were expected to implement as part of a comprehensive approach to youth suicide prevention, intervention, and postvention. Each rubric used a five-point scale that described critical benchmarks in a school's implementation of that component. Each benchmark described variations on full implementation, ordered from no implementation (1) to complete implementation with fidelity to recommended practice (5). Data from pre and post interview transcripts and pre and post analysis of written protocols were used to determine a school's score for each of the 11 rubrics. Two evaluators rated each school on each rubric. To arrive at a final score for a school, scores calculated for each implementation rubrics were added and divided by the total number rubrics scored for that school. In some cases missing data prevented evaluators from scoring one more rubrics for a school. This was particularly true for comparison schools.

The final score for a school could potentially range from one (no implementation) to five (full implementation). The 11 rubrics measured the following program components.

Rubric #	Project Component
1	Written and complete intervention protocols for a situation in which a student has been identified as potentially suicidal by a peer, teacher, or school employee.
2	Written and complete intervention protocols for medium to high risk situations that exist when a staff person observes or is told that a student is making explicit statements indicating the wish or threat to die; has access to, or is in possession of, lethal means.
3	Written and complete intervention protocols for responding to a student suicide attempt on the school campus.
4	Written and complete intervention protocols for responding to a student suicide attempt off school premises.
5	Written and complete postvention protocols for responding in the aftermath of a student or staff suicide.
6	A Memorandum of Agreement with a crisis service agency that states what services are available to the school and how they can be accessed.
7	The presence of trained Gatekeepers who are readily identified by school staff.
8	Regular and timely suicide awareness education presented to all school personnel, with plans to train new staff every new school year.
9	Deliberate and consistent provision of parent information and resource materials on youth suicide.
10	Delivery of the Lifelines student lessons in health courses presented by a person trained in to conduct these lessons.
11	Delivery of research-based school programs for youth at risk, such as a fully-implemented Reconnecting Youth project with a trained facilitator plus other school-based student assistance projects.

Findings

Project schools had an initial combined mean score of 2.6 on the Readiness Rubrics, and progressed to a score of 4.35 at the end of the project. The highest score attained by a project school was 4.86 on the 5-point scale, and the lowest was 3.64, the only score under 4.00.

Based on project schools' combined scores for each Readiness Rubrics (Table 3) the project element most completely implemented was the presence of two trained Gatekeepers in the school that could be readily identified by staff. All the project schools received perfect scores of 5.00 on this rubric. The ready availability of Gatekeeper training in this project, the provision of money to pay substitutes while staff attended training, and, the clarity and simplicity of the required element most likely facilitated high compliance.

Other project components for which the combined final score were high were rubric #1 and rubric # 10.

Rubric #1—Written and complete intervention protocols for a situation in which a student has been identified a potentially suicidal by a peer, teacher, or school employee—had a final score of 4.71. From the very beginning, Project Staff emphasized the importance of having a clear, written protocol to guide staff actions when they identified a student who was potentially at risk for suicide. The evaluation may have helped to emphasize this element also by asking school coordinators to keep "Event Reports" which described and tracked incidents in which staff, students, or others identified behavior that could indicate potential risk for suicide.

Rubric #10—Delivery of the Lifelines Curriculum in health courses presented by a person trained in the curriculum, with enrichment by outside resources—also scored 4.71. Attending training for delivery of the Lifelines student lessons, and use of a complete teaching manual with lesson plans and scripts provided was required of project schools. The importance of the Lifelines student lessons was emphasized through an extensive evaluation component, and through the presence of the authors of the student lessons on the project team.

Table 4. Project Schools' Final Scores on Readiness Rubrics

Rubric number	Average score (Scale, 1=low, 5=high)	Rubric content
7	5.00	The presence of at least two trained Gatekeepers who are readily identified by school staff
1	4.71	Written and complete intervention protocols for a situation in which a student has been identified a potentially suicidal by a peer, teacher, or school employee
10	4.71	Delivery of the Lifelines Curriculum in health courses presented by a person trained in the curriculum, with enrichment by outside resources
2	4.58	Written and complete intervention protocols for medium to high risk situations that exist when a staff person observes or is told that a student is making explicit statement indicating the wish or threat to die, has access to or is in possession of lethal means
3	4.58	Written and complete intervention protocols for responding to a student suicide attempt on the school campus
6	4.46	A Memorandum of Agreement with a crisis service agency that states what services are available and how they can be accessed
8	4.33	Regular and timely suicide awareness education presented to all school personnel, with plans to train new staff every new school year
5	4.17	Written and complete postvention protocols for use in the aftermath of a student or staff suicide
4	4.04	Written and complete intervention protocols for responding to a student suicide attempt off school premises
9	4.00	Deliberate and consistent provision of parent information and resource materials on youth suicide
11	3.29	Delivery of research-based school programs for youth at risk, such as a fully-implemented *Reconnecting Youth* program with a trained facilitator plus other school-based student assistance programs

The most challenging component of the project, as indicated by the rubrics scores was the provision of research-based programs for at-risk youth, with trained facilitators and with other school-based student assistance programs. At the end of the project, the average score for this rubric was 3.29 among the six project schools who had agreed to implement this project component. This result is not surprising since programs for high risk youth, such as RY, are labor-intensive, and difficult to implement with fidelity.

Also, at the lower end of the implementation spectrum were written protocols for responding to a student suicide attempt off school premises, providing consistent parent

information, and delivery of a research-based program for students at risk (the least completely implemented).

Compliance with having written protocols for suicide attempts off school premises was completed for all but three project schools. Two project schools did not include these protocols at all in their plans; that is, they failed to differentiate between on- and off-campus incidents and how they would be handled differently. One school included references to the differences, but their plans were not scored as complete in this regard. Because scores on this rubric reflected, for the most part, all-or-nothing degrees of compliance, the scores on this rubric, overall, were among the lower scores. While training on this project component was thorough, it was not as central to key respondents as the protocols for handling in-school suicide attempts.

Provision of deliberate and consistent parent information including available resources was difficult for schools. It was not as strongly emphasized in the first two years of the project years when internal school planning was paramount, and the model guidelines were not as clear and actionable to school personnel as were the guidelines concerning action to be taken when a student at risk for suicide was identified. Therefore, schools differed in what information they disseminated and in how they disseminated it. Most made information available to parents, but did not assure that the information reached every parent. For example, the information might have been made available to parents who attended an orientation or an information session at the beginning of the school year, but not all parents attended the session. Brochures might have been available, but they were not tailored to the resources that would be called upon at a specific school, and were not deliberately sent to all parents. While funding was available to support information dissemination, it was less likely to be used for parent education than for in-school project needs.

The least likely component to be implemented was having a research-based, fully-implemented formal project for at risk youth, such as Reconnecting Youth (RY). In this project, six of the schools were designated to implement Reconnecting Youth, based on the rating committee's selection from among schools that had indicated as interest in doing so. There were additional financial incentives to support the RY curriculum to cover extensive training and technical assistance for that program. Schools not designated as RY schools, however, were also expected to have programming and resources accessible to the school for at risk youth, such as alternative schools or school-based group counseling with a trained and licensed professional.

Even among the RY schools, implementation was scored on the rubrics as complete in only three schools. The RY program is so highly structured that such factors as length of class periods and school terms became obstacles to model implementation. Even schools that implemented with reasonable fidelity made adaptations to the model so they could offer the student lessons. Recruitment into RY was not conducted in the data-driven method prescribed, as these schools were simply too small to permit use of this method. Where there were multiple semesters in which RY was offered, facilitators usually tried to implement the curriculum in the first iteration of the course, and then found there was not time to implement with complete fidelity. In subsequent iterations, they often modified the curriculum. In scoring on the rubrics, the raters were generous in allowing substantial implementation to achieve the highest score.

Among project schools that were not RY schools, there were usually provisions for some other services for youth at risk, but they were often not tied to a systematic program such as a formal alternative school or other group program delivered by a trained facilitator or clinician. All schools offered guidance services and referrals.

Comparison Schools' Rubrics Scores

The comparison schools, that had only the set of MYSPP Protocol Guidelines provided to all Maine schools, plus the availability of technical assistance and training if they sought it, started at a mean score of 1.64 on the rubrics, lower than the project schools. No comparison school progressed by a mean score of as much as 1.0 from the beginning to the end of the project period. At the end of the project, the comparison schools' scores ranged from a low of 1.32 to a high of 2.82 (M= 2.17, SD 0.479), indicating that their adoption of measures consistent with the MYSPP Guidelines was minimal. Comparison schools made the most positive change, albeit a small change, in training Gatekeepers, and secondarily, in offering school-based programs for at risk youth.

Discussion

The use of project implementation rubrics in the evaluation of the Maine Youth Suicide Prevention Program was instructive. The evaluators recommended that this methodology be used in combination with other measures in a multi-mode design when an implementation project has three essential characteristics.

- If there are multiple implementation sites, that all the project sites have very similar starting points; that is, no unit (e.g., school) has already implemented some of the project and all the sites can reasonably be expected to attain full implementation.

- The project components are clear and well-defined, and clear and consistent evidence is created when essential components are implemented.

- The desired end points of implementation are clear, observable, documented, and can be measured via multiple methods.

The evaluator should develop *a priori* rubrics based on a clear understanding of the project's expected outcomes, and then can refine them in consultation with the project directors. It is the evaluator's responsibility to assure the integrity of the resulting rubrics, the data collection, scoring, and analysis.

In addition, the evaluator should be prepared to revise and refine *a priori* rubrics based on preliminary findings. If time and other resources permit, a separate study could be conducted to draft rubrics and test them against data collected in a set of test sites before their implementation in the program of interest. In the case of this evaluation, the intent was to use the rubrics as one of several measures of project implementation, and to allow project schools to read and use the rubrics to guide implementation. The set of rubrics was an important measurement tool, but by no means the only one in this multi-method evaluation.

This project required complex, but clear, performance objectives be accomplished by the project schools. Where multiple criteria were involved in defining the points comprising a given rubric, the checklist was used to document the reasoning behind each scorer's decision. The checklist provided detail that was useful in resolving disagreements among scorers, and was used to help revise and refine the rubrics when necessary. A checklist was quite useful in scoring these rubrics.

Sharing project performance rubrics helped participants understand what they were expected to accomplish. In this project, rubrics were a familiar measurement method to school personnel, and they welcomed the specificity they provided.

The rubrics were successful as a tool to demonstrate progress toward full implementation on the part of the project schools. The rubrics served to show that the comparison schools, even with the knowledge that they were being compared to other schools that were working on youth suicide prevention, intervention, and postvention, did not advance in their efforts in that regard

consistent with the protocol Guidelines. Many efforts intended to improve school-based practices stopped at the level of providing information to schools, usually by mailing it to administrators or inviting them to workshops. Consistent with that approach, all Maine high schools were provided the MYSPP Protocol Guidelines packaged in a notebook prior to the project, in May 2002, including the schools that would eventually become the project and comparison schools (although the CDC Request for Proposals had not been issued at that time). The comparison schools, as a group, however, did not adopt or adapt the Protocol Guidelines to their schools, while the project schools did so, to greater or lesser degrees, and as prompted by the technical assistance and financial incentives afforded them by the project.

Protocols and Memorandums of Agreements

Prior to implementing education for staff or students, project schools were required to develop, write and implement two project components--school suicide or crisis protocols and a Memorandum of Agreement with crisis agencies in their communities. The protocols were expected to follow the model provided for and developed by the Maine Youth Suicide Prevention Program (MYSPP). The Prevention, Intervention and Postvention Protocol Guidelines were developed in collaboration with, state and local public health and education leaders and experts from nonprofit organizations in Maine. John Kalafat, Ph.D., of Rutgers University, a nationally recognized authority on youth suicide advised the MYSPP in a pilot implementation of the Lifelines Program prior to this project. These components were intended to prepare a school to adequately and responsibly respond to students who are identified as potentially at risk for suicide.

The Memorandum of Agreement (MOA) is a written contract the school developed with a local mental health crisis provider. It provides for a telephone consultation to determine whether a crisis assessment of student risk is indicated; an assessment if a student *is* at risk; short-term solution-focused counseling as a result of the crisis evaluation; and referrals to appropriate community services. The MOA includes a listing of available services, when and where those services are available, a description of how the school could access the services, and what to expect when requesting services.

Evaluation Methods

Development of School-specific Protocols and Memorandum of Agreements

Participating schools were asked to develop suicide intervention protocols specific to their schools that would describe, in detail, the school's planned response to a crisis involving suicidal behavior.

The written protocols were to include the specific actions to be taken and person to be involved when 1) an immediate threat of suicide occurs, 2) when a medium to high risk situation occurs, 3) when a suicide attempt occurs both on and off school grounds, and 4) specific instructions for effective postvention planning for the aftermath of a death by suicide. The protocols were to explain specific actions to be taken and actions to be avoided to help the

suicidal student, as well as other students during a crisis, and included instructions for staff to follow to support a student's reentry to school following absence for suicidal behavior.

Who Was Involved

Typically, the school coordinator took the lead in creating the required written protocols. In some schools, the coordinator was the primary author of the protocols, while in others writing the protocols was a broad-based effort that used email attachments so that the school community could review and comment on the draft in progress. Across schools, several others participated or assisted in the writing in addition to the school coordinators. These included, but were not limited to administrators, school nurses, school teachers, social work staff, and crisis service providers. Several mentioned the project coordinator's technical assistance as being instrumental in helping them think through the issues in the protocols.

Memorandum of Agreement

All schools developed a written memorandum of agreement with their local crisis agencies.

Findings

Writing the Protocols

The two most frequently mentioned challenges to writing school protocols were first coming to the understanding that the protocols had to be specific to each school if they were to be optimally useful in a crisis. The coordinators in schools, where there had been suicides or other school/community deaths, realized the value of specific protocols more readily than coordinators and other key staff in schools that had not dealt with those events.

In smaller high schools, long-standing and informal conventions were already in place. These high school personnel were, generally, certain the students and school/community members knew each other so well, that any suicide-related issues would be referred to them directly, or they would find out about them quite rapidly. However, when these smaller high schools did experience a student death, and the written protocols or Guidelines were applied, those interviewed supported the necessity of specific written protocols.

Larger schools were more likely to have written policies and protocols for other administrative matters. However, even in the larger schools, the protocols appeared to require more detail than they had ever considered in dealing with suicide, and to those who knew of the Guidelines' existence, it seemed that a volume that big could easily be modified and adopted in their school without substantial time spent on details.

Time

The second major challenge was finding the time to write the protocols. There are unquestionably many time pressures on school personnel and the protocol writing process for most of the schools was intensive ("Arduous," said one coordinator) and required more time than they expected. Time-consuming tasks were working in committees and scheduling meetings, the need to detail procedures already followed, and the need to bring all members of committees to the same comfort and knowledge level concerning youth suicide so discussions could progress. In at least two instances, the writer of the protocols took a day away from the school and stayed home to write without distractions. Administrative support was necessary for one person to put all the final sections together in a coherent whole. Grant money was available for schools to use if necessary to pay substitutes for days away from school.

Support

In some schools, administration was not particularly involved and often did not understand the process of writing protocols that were specific to the school community. Active participation in protocol formulation and writing on the part of principals was rare, but important when it was present. Principals helped supply the details of existing policy and practice, not all of which were necessarily known to the protocol writers. Their support recognized the importance of the effort and the resulting document.

Technical Assistance

Having guidelines and technical assistance was important. The writers did not have to start "from scratch" to assemble school-specific protocols. A writer could use online text to form the basis of the document and modify it to include the details that would customize it for a particular school.

Approving the Protocols

For most schools, the administration agreed the protocols were not "policy," they were "procedures," and therefore would not have to be approved by a school board. However, in at least two schools, school board input was sought in the protocol writing process with the intent of anticipating and resolving any issues that might stand in the way of board review and approval.

Memorandum of Agreement

Some coordinators reported developing closer relationships with crisis agencies as a result of the written agreements. There was little change in school and crisis agencies relationships in schools that had an existing relationship in which a crisis worker from the agency provided on-site services in the school or had a similar relationship with another mental health agency in the area that also provided crisis services.

Discussion

Evaluation results showed that all project schools developed appropriate written protocols. Among the challenges the schools faced in writing the protocols were: obtaining support from administrators and other staff; the perceived need for written protocols when verbal understandings were viewed as adequate in the past; and understanding how to translate the MYSPP guidelines to school-specific protocols. Technical assistance and models provided by the state-level project coordinator were essential to the accomplishment of this task.

Despite the challenges of protocol development and implementation, schools identified protocols as one of the most valuable components of the project. Several schools had occasion to use the protocols—one due to a student suicide and another due to a parent suicide. Other schools found the suicide-related protocols helpful in experiences with student deaths that resulted from causes other than suicide. School personnel who experienced crisis were grateful for the guidance the protocols provided. In schools where there had been student deaths, the experiences and input of community and school personnel were used to prompt consideration of topics and details that might not have otherwise been included.

General support and involvement of a variety of school faculty and staff was important. When committee members were recruited and writing tasks were shared, there was more discussion about the details of the protocols which led to a greater sense that the work was valued and appreciated.

School Staff Training

To prepare the school to respond to a suicide or suicide risk, a series of trainings were provided to a wide range of school personnel. These included Gatekeeper training, a training of trainers, and a staff awareness training. The following is a short description of each of the staff trainings.

Trainings Provided

Gatekeeper Training

Gatekeeper training is a one-day training session delivered to groups of adults in school and community settings. The goal of the training is to increase participants' confidence and ability to reach out to suicidal persons, their family, and friends. The training is designed to: 1) provide up-to-date information about suicide, 2) teach basic suicide intervention skills, 3) increase personal confidence and ability to effectively respond to suicidal behavior, and 4) identify helpful resources.

Each of the participating schools sent a cadre of key staff to the Gatekeeper training, including their school project coordinator.

Training of Trainers

The Suicide Awareness Training of Trainers is a four-hour session offered to prepare those Gatekeepers who would facilitate one to two hour suicide awareness training sessions to other school staff. The Training of Trainers sessions included a packet of easy to use materials as well as an opportunity to review and practice the student lessons.

Staff Awareness Training

Six regional Training of Trainers (TOT) sessions were conducted to train local Gatekeepers to present suicide prevention awareness education sessions. This training enabled selected individuals from school and community settings to conduct awareness education sessions with confidence. The purpose of these sessions was to increase everyone's awareness of the warning signs of suicide, to whom students should be referred if there is a concern and to

describe the school protocols for handling potentially suicidal students. Resource information is provided with the awareness training. Every school was required to conduct awareness education sessions prior to teaching the student lessons. In preparation to do so, a total of 73 persons attended the TOT sessions. Once trained, these individuals began to deliver awareness education sessions to staff at their sites. Between October, 2003 and October, 2004, more than 1,000 school faculty, support staff, bus drivers, food service personnel, and school administrators received the awareness education sessions, at the twelve study sites.

Evaluation Methods

The evaluation of staff training focused on evaluating the impact of the Gatekeeper training and the school-level staff awareness trainings. Descriptions of each, along with the findings, are below.

Gatekeeper Training Data Collection Method

Gatekeeper training was evaluated with a single group longitudinal design, with data collection at four points: pretest, posttest, six and twelve month follow-ups. These data were supplemented by in-depth interviews conducted with Gatekeepers at the end of the funding period. Questionnaires were designed to measure changes in perceived knowledge, comfort, confidence and willingness to intervene with a person who might be at risk of suicide, and numbers of referrals made. Interviews were designed to explore the perceived benefits of the training to the Gatekeepers in their role within the school.

Pretest questionnaires were administered immediately before training, posttest questionnaires at the end of the training. Six and 12 months later the follow-up questionnaires were mailed, using the training registration list. Questionnaires were anonymous, but contained a unique identifier so that matching would be possible. Following project implementation, interviews were conducted with at least one Gatekeeper at each of the study sites. Interviews were audio-taped, tapes were later transcribed, and names were replaced with codes that reflected the role of the interviewee in the school.

Staff Survey Data Collection

At the beginning of the active initiation of the Youth Suicide Prevention Project in the participating schools, and again at the end of the project, a survey of staff was conducted in the schools participating in the project and in a group of comparison schools which had received the Guidelines, but not project participants under the CDC grant. The questionnaires were either scan forms or traditional paper instruments. The questionnaires contained questions concerning participation in training, confidence in recognizing warning signs and taking action, familiarity with school suicide protocols, knowing who in the school is designated as the person(s) to whom referrals should be made, familiarity with community resources, and estimates of the number of times that the staff member had concerns about student risk and had reported those concerns. A copy of the Staff Survey is included in Appendix A.

The school coordinators in project schools and the school principal or designee in comparison schools were asked to distribute the questionnaires to all faculty and staff that had student contact. They were encouraged to define staff broadly so as to include non-instructional and non-professional staff, such as facilities management staff, food service staff, bus drivers, and contracted coaches.

The distribution method differed across schools. For example, in some schools questionnaires for teachers were distributed and collected in teachers' meetings or workshops, and in others they were distributed in mailboxes. Because the administration of the questionnaires varied, and because the number of potential respondents is not known, it is not possible to calculate a response rate. Likewise, because the design was intended to include all faculty and staff and not a sample of them, it would not be appropriate to calculate a sampling error. While questionnaires could be attributed to project or comparison schools, individual schools were not identified.

Findings

Gatekeeper Training

Two hundred and twenty-one Gatekeeper trainees completed the pretest questionnaire. Of those individuals, the posttest was completed by 201, the six month follow-up by 100, and the twelve month follow-up by 61.

Most respondents were between 31 and 60 years of age (88%), had at least 16 years of education (83%) and more than two thirds were female (69%). Among the professions listed, teachers, including education technicians, represented the largest group (35.3%) followed by guidance and mental health (15.4%), then administrators and healthcare staff (8.6% each). At pretest, forty three percent (43%) of the respondents had already had some form of suicide prevention training, and 57% reported having made student referrals for help within the previous six months. Participants were asked at pretest and both follow ups, how many of the students identified as possibly at risk had been referred to one of the following: hospital or crisis unit; a professional mental health provider in the school; or a professional mental health provider in the community. See responses in Table 5.

**Table 5. Number of at risk students referred for professional help in previous 6 months**

Referred to:	Pretest	6 Month Follow-up
Hospital or crisis unit	147	118
School Provider	161	179
Community Provider	186	203

For analysis purposes, the intermediate objectives of Gatekeeper training (increased perceptions of knowledge, comfort, confidence and willingness to intervene) were combined into one domain – Readiness to Intervene (RTI). RTI was hypothesized to be measured by six questions about knowledge, comfort, confidence and willingness to intervene. An RTI score was developed as a summated scale score adding the responses from all six questions together. This six-question summated scale approach is supported by high reliability ($\alpha = 0.92$). Based on a five point Likert scale, responses for each question, the summated RTI score on the readiness to intervene scale ranged from six to thirty.

The RTI score was believed to be the direct measure of effectiveness of Gatekeeper training. Based on the nature of the data (repeated measure) and high attrition rate at both first and second follow up, the mean of difference in RTI scores from follow up to pretest (μ_d) was tested for significance rather than differences in the actual means at pretest and follow up. This method takes into account the pretest score for calculating the difference and also controls for bias that may have occurred due to differential attrition. This analysis was carried out separately

for both first (6 month) and second (12 month) follow up data as it was important to know whether the Gatekeeper training had sustainable long term effects. Figure 1 demonstrates the improvement in RTI scores for selected subgroups. All were significant at P<0.05.

Figure 1. Select Demographics and RTI Scores
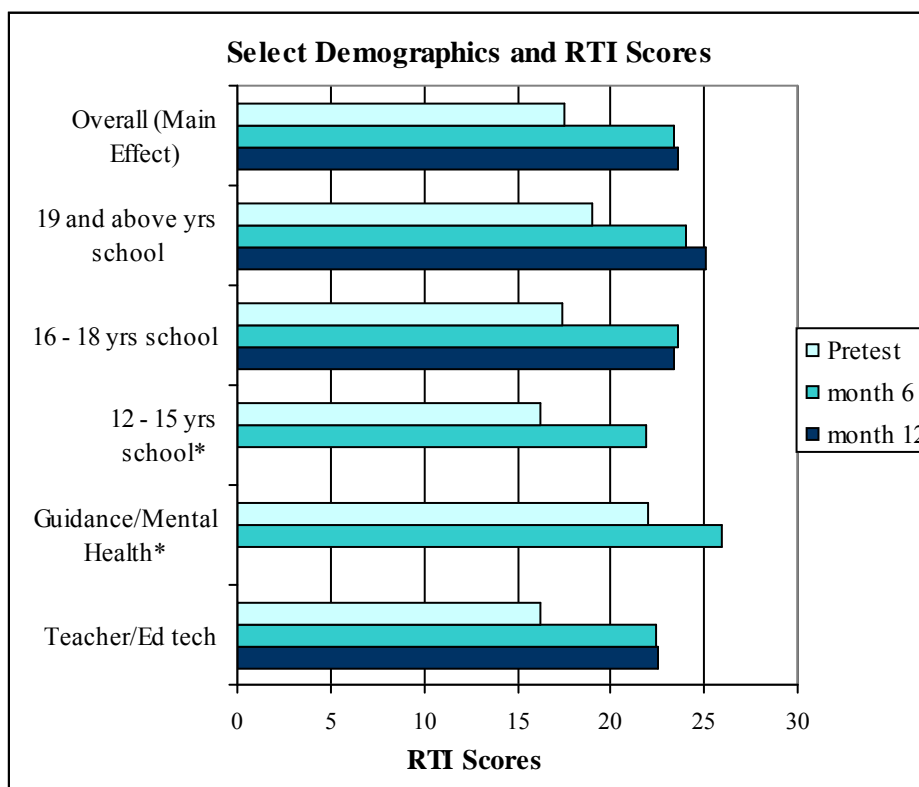
*12-month follow-up surveys were too few in number to use.

RTI scores were significantly higher at pretest among those who had had some previous training in suicide prevention, compared to those who reported no such training. Though both groups had significant improvement following training (P<0.001), the increase was greatest for those with no previous training.

Table 6. Past training in suicide prevention and RTI Scores

	Pretest (n=201)	6 month follow-up (n=100)	12 month follow-up (n=61)
Yes	20.7	24.8	26
No	15.1	22.2	22

Respondents who reported identifying someone at risk for suicide in the previous six months had significantly higher RTI scores than those who had not identified anyone.

Table 7: Identified someone at risk for suicide in previous 6 months and RTI Scores

	Pretest (n=201)	6 month follow-up (n=100)	12 month follow-up (n=61)
Yes	19.2	24.3	24.2
No	15.3	22.1	22.8

However, in spite of an overall increase in RTI scores, there was little increase (2.13%) in the percent of respondents who identified someone at risk.

Limitations of Gatekeeper Training Evaluation

There are limitations to the study design that was utilized for this evaluation. As there was no control group, it is not possible to say whether or not the training alone is responsible for the outcomes. It is possible that there was a maturation effect as participants in the training were employed at schools that were actively involved in the implementation and evaluation of a comprehensive youth suicide prevention project. This may have contributed to high scores at the 12 month follow-up.

Impact of the Training

While the impact of the training varied according to profession, years of education and previous training in suicide prevention, there was significant improvement across all groups who participated. This indicates that the training, along with involvement in the comprehensive prevention project, achieved the objective of increasing readiness to intervene. Though impact of the training on outcome variables of identification and referral is less clear, it's interesting to note that higher scores on the RTI scale were associated with identification of someone who might be at risk of suicide. This suggests that, as RTI scores increase, so should identification and referral. Our inability to demonstrate this with the data at hand may have something to do with a variety of environmental factors or poor understanding of the question at pretest.

Another important point might be that almost half the group (96/201) reported previous training. In addition, there were 34 mental health professionals/guidance counselors, 19

healthcare personnel and 19 administrators, all of whom may identify and refer students as part of their normal routine. This could have contributed to the high number, on pretest, of respondents who reported that they had identified someone in the previous six months. In other words, it is possible that there is a ceiling effect for this group, making it difficult to push the numbers any higher than they already were at pretest.

Interview Data

In-depth interviews were conducted with thirteen Gatekeepers at ten of the study sites, two years after training and project implementation. They were asked to describe what usually happens after they receive a report that a particular student may be at risk.

The number of people at each school who were trained as Gatekeepers varied. At some schools, every member of the staff received training while other schools focused on training staff members who would be most involved with a student in crisis. In several schools, key community members also attended Gatekeeper training. For example, at one school both clergy and emergency medical technicians were invited to participate in Gatekeeper training. Most people who completed Gatekeeper training found it to be useful, and an instructor from one school explains why, perfectly.

Prior to Gatekeeper training, I would say I hadn't given much thought to teenage suicide. I certainly never would have directly asked a student if they were considering it. I would not have known to ask if they had a plan, I would have recognized the signs of suicide. I went from being pretty much in the dark and unaware, to being able to deal with the issue, whether it is teaching it or talking to a student.

Several Gatekeepers expressed that it was important for the people tending to the needs of a possibly suicidal teenager to feel confident that they knew how to deal with the situation. One interviewee explained,

When it talked about how to assess whether or not someone is at risk of suicide, it was extremely helpful . . . how to ask the questions, what to look out for; it gave me confidence to know that I would have a pretty good idea when I got done talking to somebody. It can be very tricky sometimes; it's not black and white like sometimes the training would like us to think it is. Kids won't always say 'yeah, I feel suicidal' even if they do have suicidal thoughts or tendencies, so it's a little tricky. But it gave me enough knowledge to be able to assess someone, to say

whether or not there is reason to be concerned and suggest they go out to crisis or to seek further treatment. It allowed me to talk with their parents much better, too; I think I did a much better job with them.

Staff Awareness

A total of 879 completed staff surveys were returned at the beginning of the project: 674 from project schools and 205 from comparison schools. At the end of the project, a total of 613 completed questionnaires were returned: 296 from project schools and 317 from comparison schools. To protect respondent confidentiality the staff survey was not designed to allow pre-post linking of the responses of individuals.

Training

Even before the project began, many of the teachers and staff of the project schools (35%) and the comparison schools (52%) had some form of training to recognize the warning signs of suicidal behavior in students. Much of this training was recent, 20% of faculty and staff in the project schools and 25% of the faculty and staff in the comparison schools had had suicide awareness training in the past three years. The interviews with key personnel in both the project and comparison schools indicated that training took many forms, including college and university courses in counseling, health professions, and K-12 education and human development, as well as the suicide awareness training conducted through the Maine MYSPP as precursors to this project.

A primary goal of the project was to train as many staff and faculty as possible to recognize risks of suicide. Following the implementation of the project there were clear differences in the proportion of staff and faculty who reported they had received training: 75% of the faculty and staff in the project schools, and 57% of the faculty and staff in the comparison schools had training. In the project schools, 63% of staff and faculty received training in the past three years (that is, during and just prior to the project), while 26% of faculty and staff had received recent training in the comparison schools. These data show that training reached more of the faculty and staff in the project schools than in the comparison schools, although training was available to those in the comparison schools if they sought it.

Confidence in Ability to Recognize Signs and Know What to Do

In project schools, the proportion of faculty and staff who said they were very confident in their ability to recognize the warning signs of suicide and very confident they know what to do if they suspect a student is at risk approximately doubled from the period at the beginning of the project to the end of the project. At the beginning of the project, 15% said they were very confident they could recognize warning signs, and at the end, 34% described themselves as very confident. The proportion saying they were not at all confident in that ability declined from 25% at the beginning of the project to 6% at the end of the project. Likewise, the proportion of faculty and staff who were not at all confident about knowing what to do declined from 17% to 3%.

The proportion who were very confident that they could directly ask a student if they were considering suicide increased by 23%, from 30% at the project's beginning to 53% at the end. Among the comparison schools there was almost no change in the proportion saying they were very confident in those three key elements of suicide awareness and prevention.

Knowledge of School Protocols, In-school Referrals, and Community Resources

The suicide prevention and intervention training provided in the project has increased staff awareness concerning their schools' protocols for dealing with youth at risk for suicide, the presence of a designated person or persons whom they should contact if they suspect a student is at risk, and the availability of relevant community resources. Before the project and concurrent training was initiated in the schools that were part of the project, 40% of staff said they had received information about their schools' protocols; after the project, 91% said they had received such information. In comparison schools, 39% said they had received information on the protocols before the project period, and 49% said they had received it following the project period.

Pre-project knowledge of a referral source within the schools was higher than knowledge of written protocols in the pre-project period for staff in the project schools; 80% said there was an identified person to whom students thought to be at risk should be referred. Information from the interviews with key personnel at the beginning of the project indicated that this degree of certainty does not necessarily mean that a person was identified to handle incidents of suicide risk. Rather, it meant that in most schools serious behavioral health issues were commonly

referred to a principal, a guidance person, or a school health professional, and a student thought to be at risk for suicide would be included in those referrals. Following the training and the project period, almost all (96%) of the responding staff said they knew who had been designated as the person to whom suicide risk referrals should be made. Even among project school staff who said they had not had suicide training in the past three years (despite its having been offered at the school), the proportion of those who said they knew to whom to refer increased from 79% to 92% during the project period. In comparison schools, the percentage of staff who said they knew to whom to refer was stable from the pre-project period (79%) to the post-project period (75%).

Familiarity with community resources that dealt with youth at risk for suicide increased for staff in the project schools. Before the project was implemented, over half (52%) of the responding project school staff members said they were familiar with community resources. Following the project period, 79% said they were familiar with them. Even among project school staff who said they had not received training in the past three years, 71% said they were familiar with community resources. The percentages of staff in the comparison schools remained very stable in their familiarity with community resources, both before and after the project period; 57% said they were familiar with those resources.

Concerns about Students at Risk

There was an interesting pattern, or lack thereof, to the data concerning staff reports of the number of times they were concerned that one of their students might deliberately hurt themselves or attempt to injure themselves, and the number of times they expressed that concern to an administrator, counselor, or health provider in their school. One might expect that the number of times staff members were concerned about students might increase following training in recognition of suicide signs and in the actions to take. The simple sentinel effect of having attention paid to the signs might be expected to induce staff to see more signs. On the other hand, training might temper the perceptions of staff, and they might be better able to differentiate signs that are appropriate for concern from those that are generally not true suicide signs. Cutting, for example, is often incorrectly mentioned as a suicide sign, while it is actually most often a coping mechanism rather than a suicide sign for students who practice it.

Staff reports of their concerns and reporting behaviors were quite similar in the project and comparison schools. The number of times that project school staff reported being concerned about a student in the past year dropped from a mean of 2.6 times before the project to 1.5 times after it, and they said they reported concerns 2.2 times in the year before the project, and 1.4 times after it. Staff in the comparison schools before the project period said they had concerns 3.2 times in the past year and reported them 2.7 times, and after the project period, had concerns 1.6 times and reported them 1.4 times.

Discussion

A primary goal of the project was to increase the readiness of schools to identify and respond to students at risk for suicide. A major strategy for accomplishing this goal was to train as many staff as possible about the signs of suicide risk and what to do if a student exhibits these signs. The two primary modes of training were Gatekeeper training and Staff Awareness. Gatekeeper training is one-day training provided to selected staff in each school. The training was designed to: 1) provide up-to-date information about suicide, 2) teach basic suicide intervention skills, 3) increase personal confidence and ability to effectively respond to suicidal behavior, and 4) identify helpful resources. The second method for training staff was ninety minute awareness education training for staff in all project schools. This training was designed to: provide basic information on signs of suicide risk; identify the school staff trained as Gatekeepers; provide information on which school personnel to report concerns to if you observed signs of risk in a student; and to develop awareness of the school's written protocols regarding suicide.

The evaluation of the Gatekeeper training and the staff survey provided evidence to support the claim that the project accomplished its goal of increasing staff's readiness to identify and respond to students at risk for suicide. Evaluation of the Gatekeeper training used a scale with measured participant's readiness to intervene with a student at risk. The Readiness to Intervene (RTI) scale measured perceptions of knowledge, comfort, confidence, and willingness to intervene. There was a significant increase in RTI scores for training participants immediately following the training. This increase in readiness to intervene was sustained 6 months after the training. Although fewer participants responded to a 12-month follow-up survey, those who returned the survey sustained their increase in readiness to intervene.

Results of the school staff survey conducted at the start and finish of the project in both project and comparison schools showed that the project did increase the percent of staff in project schools that had received training in suicide awareness. This increase did not occur in comparison schools. In project schools there was an increase in staff's confidence that they knew what to do if they suspected a student was suicidal, while there was no change in comparison school staff's perceived confidence. The suicide prevention and intervention training provided in the project increased staff awareness concerning their schools' protocols for dealing with youth at risk for suicide, the presence of a designated person or persons whom they should contact if they suspect a student is at risk, and the availability of relevant community resources. This increase did not occur in comparison schools.

Student Education

Two evidence-based programs were selected to educate students—Lifelines Student Lessons and the Reconnecting Youth Student lessons. Lifelines student lessons target all students. Reconnecting Youth is a research-based student lessons, and targets at-risk students. This chapter describes each education program, the evaluations conducted, and the results of those evaluations.

Lifelines Student Lessons

The Lifelines lessons, designed to be delivered in four 45 minute or two 90 minute classroom sessions, are best suited for grades 8, 9, and 10. They are sequential, participatory, practical, action oriented, and problem vs. content-centered in that they address issues with which students are currently dealing. The lessons are based on current facts and research on adolescent suicide.

The Lifelines lessons were intended to be incorporated into the comprehensive school health education classes required of all Maine high school students. Health is commonly taught in the 9th grade, although the year in which it is taught is a matter of local option. Lifelines student lessons, developed by Kalafat, Underwood, & Ryerson (1999; 2000), were modified by the MYSPP to align with the Maine Learning Results, which sets standards for academic achievement by Maine students.

Lifelines lessons were delivered in health education classes at participating high school between January 1, 2004 and June 30, 2005. Prior to implementing the Lifelines lessons into their classes, teachers participated in a full-day session that reviewed and practiced all the materials and classroom lessons. A total of 41 health teachers were trained and provided with teaching materials. Over the study period, all sites delivered the Lifelines lessons during health education classes.

Lifelines Student Lessons Evaluation

> **Goals**
>
> ➢ Increase students' knowledge and dispel myths about suicide prevention,
>
> ➢ Heighten student awareness of available school and community resources,
>
> ➢ Increase student ability to recognize signs that a peer may be at risk for suicide, and
>
> ➢ Increase the likelihood that they will take appropriate action on their peers' behalf if they suspect a peer may be having suicidal thoughts.

Lifelines Student Lessons Evaluation Methods & Findings

Assessing Implementation

In order to assess the degree of fidelity to the curriculum and quality of teacher implementation of the Lifelines classes, MYSPP staff observed classes at eleven of the twelve participating schools. Due to limited staff time, not all lessons were observed. However, project staff observed enough classes so that the observations included 51% of all the students who received Lifelines classes.

Observers used a standardized form for each activity in each of the four Lifelines lessons. Two areas were assessed during each observation—degree of fidelity to the student lessons and quality of teacher-student interaction. Fidelity to the student lessons was high during observation as was teacher student interaction.

Lifelines Student Lessons Evaluation

Observation Results	Degree of Fidelity
All required materials present	100%
No irrelevant/inaccurate information interjected	95.5%
Delivered in correct sequence	95.5%
All points of activity covered	90.0%
Lesson used as guide rather than read	89.9%
Encouraged Participation	
Accepts/acknowledges student responses	89.9%
Summarizes/repeats student responses	90.2%
Elicits student responses	91.1%
Responds to student questions	70.1%
Mean Student Engagement Level	1.65[1]

[1] 1 = high, 2 = medium, 3 = low

Interviews with teachers revealed the factors which supported and challenged successful implementation of the Lifelines student lessons.

Supports for Successful Implementation:

- Teacher training

- Teacher-friendly, well constructed lessons and materials

- Alignment of lessons with Maine Learning Results for Health Education

- Project components in place before the lessons including written protocols, written agreements with crisis agencies, knowledge of referral process, and trained staff.

Challenges to Successful Implementation:

- Difficulty engaging students in role plays

- Other areas in health education courses needed to be cut in order to fit the Lifelines lessons

Student Outcomes Evaluation

To measure changes in student knowledge, attitudes, and help-seeking intentions, a pre, posttest design with a control group was implemented. Administration of pretest and posttest questionnaires occurred at all 12 sites, two of which included both a treatment and control group. Control groups were constructed by administering the questionnaires to students in physical education classes who were scheduled to receive the Lifelines lessons in the following semester. Questionnaire administration was synchronized with the health education class schedule, occurring when the Lifelines lessons were about to be offered.

Questionnaires were self-administered and took approximately 20 minutes to complete. In order to protect confidentiality, no names were requested but individual pre and post surveys were matched using a numbering system. Administration of the posttest questionnaire took place within two weeks after the final Lifelines lesson.

In addition to the student questionnaires used to measure student outcomes, Event Reports, maintained by site coordinators, documented the identification of students who were potentially at risk for suicide. The reports documented if a peer was the first person to express concern about a student and whether or not the peer coming forth on behalf of a peer has participated in the Lifelines lessons.

Student Questionnaires

Structured pre and posttest questionnaires, which were identical, were designed to assess student gains in four domains representing Lifelines instructional objectives: (1) student knowledge of suicide and resources; (2) attitudes toward help seeking for self or others; (3) intent to intervene with at risk peers; and (4) attitudes and beliefs about suicide. Six open-ended questions asked students how they would respond to two different scenarios, one of which describes a

> **Teacher Comments**
>
> *…this is my 25th year of teaching and this is probably the best thing I have taught in 25 years. It is just done so well that even the students who are a little shy at the beginning get comfortable with the topic – more comfortable towards the end.*
>
> *I've noticed now four or five times that they [students] have taken the information with them and they're so much more knowledgeable so even though they're out of our sight, I feel confident that they know who to contact in case there is an issue that they need to deal with.*
>
> *I think it [the curriculum] teaches them responsibility beyond themselves. I think it's an eye opener to see that they can have a positive influence on others without becoming involved directly. Take the responsibility but pass it on and in doing that help someone else and it just kind of opens their eyes to recognize when someone else is in trouble.*
>
> *I know during the actual lessons, some students have made some contact with us and we set them up with a referral so, but I think without [these lessons] they wouldn't have been aware of it.*

high risk situation with a peer; while in the other the risk is less clear (Kalafat, Elias, & Gara, 1993).

Student Outcomes: Questionnaire Data

      A factor analysis was conducted on the post-test responses to the questionnaire to assess the empirical alignment of the items with the researcher-generated categories for the questionnaire, which were based on the instructional objectives of the student lessons. The following four factors or constructs were identified.

1.   **Help Seeking** included such items as:

   - *It is important to have at least one adult who you can talk to if something is bothering you.*

   - *My school is prepared to help a student who might be thinking about killing him/herself.*

   - *If a friend came to school in a bad mood and casually mentioned, "my family would be better off without me," I would encourage him or her to get help from a responsible adult.*

2.   **Knowledge/Attitudes** included such items as:

   - *A friend's confidence about suicidal feelings should never be broken.*

   - *If somebody wants to kill themselves, nobody has the right to stop them.*

   - *People who talk about suicide do not commit suicide.*

3.   **Not Help** included the following items:

   - *The best thing to tell a suicidal friend is to "pull yourself together and things will get better.*

   - *If someone really wants to kill themselves, there is not much I can do about it.*

   - *If a friend told me that she/he is thinking about killing her/himself, I would not know what to do.*

4.   **Tell a Friend** included the following items:

   - *Tell another friend about what you notice about your friend.*

   - *Get advice from another friend.*

Pre/Post Questionnaire Results

Pre-post questionnaire data were obtained from 1,543 students receiving Lifelines lessons in the twelve participating schools. Data analysis, looking at the mean difference of pre and post test scores showed significant improvement on questions used to measure three of the four factors on the survey. Findings suggested that students had more accurate knowledge and more constructive attitudes about suicide, were more willing to seek help from adults in the school, and were less likely to believe there was nothing they could do in response to a friend's suicide risk. While students were more likely to seek adult help on behalf of a friend after participating in Lifelines student lessons, they were no less likely to consult another friend about the situation.

Comparisons of pre-post changes for the two schools at which control groups were available groups showed significant differences between intervention and control groups on 27 of 34 questions. Means of responses to items in each construct at pre-test and post-test were calculated for intervention and control groups. As in the pre/posttest comparisons, significant changes in support of program objectives for the intervention as compared to the control groups were found for three of the constructs: Help Seeking, Knowledge/Attitudes, and Not Help. There was little change for either group in the Tell a Friend factor, as this response appears to be a robust option for teens.

Self or Peer Referral

Event Reports were maintained by study site coordinators to document the identification and referral of at-risk students. In 35 cases, the students in crisis presented themselves to a Gatekeeper in the school. In an additional 26 cases, a student expressed concern about a peer to an adult Gatekeeper in the school. Students who self-reported or reported concern for a peer were known to have participated in *Lifelines* classroom lessons in 15 of these 61 cases. It is possible that the number of these students who participated in *Lifelines* classroom lessons is actually higher since, in 22 cases, the person completing the Event Report did not know if the student had taken the class.

Summary of Findings for Lifelines Student Lessons

Observations and interviews indicated that the Lifelines lessons were implemented by teachers with a high degree of fidelity. Interviews indicated that teachers intend to continue

inclusion of the Lifelines lessons in their health student lessons after the project ended. Results of the student questionnaires provide support for the impact of the Lifelines lessons on students' expressed knowledge and attitudes about suicide and behavior intentions regarding appropriate intervention on behalf of at risk peers. This same analysis of the data also showed that while the student lessons positively impacted the likelihood that while students who participated in the program will talk with an adult about a peer's suicidal thoughts or intentions, the lessons did not impact students' intent to talk or seek advice from another friend in regards to their at-risk peer.

The "Tell a Friend" domain appears less susceptible to change than the others, possibly due to developmental factors such as strong affinity for peers and increasing separation from adults. Items related to this domain showed little change from pre to posttest.

While a direct connection cannot be made between students' self-referral of referral of at risk peer to an adult in the school, Event Reports, which provide information on identification and referral of potentially suicidal peers, show that in at least 15 incidences the student was known to have participated in the Lifelines lessons. It is possible that participation in this student lessons prompted the referrals.

Lifelines Impact Reaches Beyond Project Schools

After participating in the Lifelines classes at their school two boys become concerned about a friend in another high school during an exchange of emails. When their friend wrote about not being around anymore the boys from the project school went to a gatekeeper in their school to report the situation. The school staff alerted the administration in the neighboring school that intervened with the student. The student was discovered to be at risk for suicide as he had a plan and means to commit suicide. School staff successfully intervened with the student and at the last update the student was reported to be "doing well."

Reconnecting Youth Student Lessons

Reconnecting Youth (RY) is a SAMHSA model program developed by Leona Eggert, et al. (2000), to reconnect at risk youth with a supportive school environment. Intensive, semester-long student lessons are intended to model support and caring, help build social and study skills, monitor school achievement, school attendance and moods, inform students about the risks of drug involvement, and help at-risk students establish and maintain self-control. These student lessons were to be delivered in six of the twelve project schools. Additional funding for implementation, materials, and staff training was provided.

RY is intended for students who might be at risk for failure from school. However, students are recruited into RY by invitation based on factors similar to suicidal risk factors: i.e.,

lagging in earned credits, increasing absenteeism, declining grades, or a history of truancy. This research-based program has shown effectiveness in increasing student success in school and decreasing school dropout, substance abuse, and suicidal behaviors.

Reconnecting Youth Evaluation Methods & Findings

Originally, six of the twelve project schools agreed to implement RY, however, only five schools were able to fully implement this program in the 2004-2005 school year – either at the regular high school, or as part of an alternative education program. One-on-one and telephone interviews were conducted with four facilitators and eleven students from five Maine high schools and alternative education programs during May and June of the 2004-2005 school year. Most students were at, or nearing, the end of their RY course. An experienced doctoral student/graduate research assistant who has worked extensively with at risk youth conducted the interviews.

Two of the facilitators interviewed for this evaluation worked directly with alternative education students, and two facilitators worked with students in their high schools. Member checks were conducted with three facilitators who were able to validate their interview transcripts through email. In addition to the interviews, data sheets on student GPA and attendance for all students who participated in RY were collected from the facilitators.

Student interviewees represented all high school grade levels: 2 first year students, 4 sophomores, 3 juniors and 2 seniors. There were 7 females, and 4 males. Six of the students interviewed were taking the RY course as part of their regular high school student lessons, and 5 student interviewees were enrolled in RY through the alternative school setting.

Teacher Training

All facilitators involved in the week-long training indicated this was a necessary and important part of the implementation. Of the training, one facilitator stated, "It gave us tools to communicate with the kids; it gave kids tools to communicate with us. We got some issues out on the table that we never really had before…and I think the biggest one was the substance abuse."

Student Recruitment and Retention

Recruiting students for RY programs differed slightly between the regular high school facilitators and the alternative education facilitators. The high school facilitators looked for risk factors such as poor grades, detentions, suspensions and support visits as well as "students who were failing three or more subjects" before they made their final choices. They typically involved a team of teachers, counselors and/or other staff members to aid in decision-making. High schools that offered RY previously had an added bonus of word-of-mouth, or informal student recruitment. One facilitator says, "It takes a couple of positive experiences and then the kids start doing recruiting of their own."

The alternative education RY facilitators were positioned so that the nature of the alternative education program had already pre-selected those students who exhibited at-risk behaviors. These facilitators had the benefit of knowing their students' behavior and personalities prior to recruitment.

Also, facilitators believed they were better trained to help students who exhibited low-risk behaviors such as those listed previously, and did not select students who were "high-risk" or had "hard core" issues. Generally, said one facilitator, students who benefited from this program were at an "experimentation" level with drugs and alcohol or were "students who knew better" but had made poor decisions regarding these priorities. All believed that once students began the program, there were no problems keeping or retaining students for the course.

Support for RY

All facilitators felt they had administrative, school, and community support for their programs – both in implementation and in maintenance. One alternative education facilitator stated, however, that he had to "go to the mats" to get student credit for the course but once that happened there were few administrative barriers.

Staffing

Responses indicate that there are no "best" conditions for staffing RY other than finding the right person. Facilitators for the programs were typically hired by the school districts as Education Technicians with the exception of one LCSW who worked in the regular high school program. Because schools utilized support staff and not full-time teachers, as recommended by

the program protocols, none of the RY facilitators believed that they were over-loaded or that this program was a time constraint. Facilitators were satisfied with the level of financial support and resources available to them.

Student Lessons

Facilitators agreed that the student lessons, as written, were too lengthy to complete in one semester; however, they used as many activities as they could within their time frame and adhered to the concepts and tailored the student lessons to fit the group's needs or comfort level. Said one facilitator, "I stuck very close to the way [the activities are] supposed to be done with great integrity and fidelity… but I admit, I had to pick and choose what I wanted to do near the end." The facilitators commented that the least effective piece in the student lessons was wording that "appeared contrived." Although role-playing is a change-agent in this program, facilitators indicated they would also not ask students to role-play if the group expressed a dislike for that activity.

Space and Time

Student comfort level and willingness to participate in the activities in their RY course was affected by the space in which they met. While teachers were supportive and offered their rooms as meeting places, one group had to relocate after the course had started. Another facilitator reported that their space was too small, and the group did not have the room to move around a lot.

The schools had different types of internal scheduling. Two schools had block scheduling (students met every other day for 60-90 minutes); one group of students had a rolling schedule (the time of day RY met was different depending on what period was meeting); and others had traditional schedules (students met every day for 40-50 minutes at the same time). Students who met in the morning reported that RY positively impacted the rest of their school day by acting as a resource that enabled them to talk about problems before classes started.

Credit and Grades

Credit, grades, and the number of times a student could participate in RY depended on the administration. Variations ranged from students who participated in RY for a semester and

earned ½ credit toward graduation to students who participated in RY up to three semesters, and received 1½ credit with an option of taking another term. One group received a required Health credit for taking RY; other groups didn't indicate if their credit was part of their local requirements for completion. Two school groups received letter grades, and three groups were given Pass/Fail marks.

Group Composition and Dynamics

The size of the groups ranged in numbers from 4-8 students. Absenteeism, however, disadvantaged groups smaller than eight because planned activities were more difficult if one or two students from a group were absent. Students' comments on the best size for an RY groups tended to be biased toward their own group; if they were in a group of eight, or a group of four, they couldn't perceive it any other way. All groups reported mixed-gender compositions. However, females outnumbered males, both in participation in RY, and in participation in the interviews.

The mix of student grade levels, for one facilitator, was good. She states, "I had older kids who had some negative experiences and I had younger kids who didn't have much experience – so that was a help." One senior, recruited because of chronic "skipping classes," believed that even though the class helped with his organizational skills, he was in the last semester of his high school experience and felt RY would benefit "younger" students who hadn't yet realized that they "had to get their stuff done" to graduate. Another senior believed RY was extremely beneficial to him and helped him to graduate.

When asked to describe their groups, students used terms like "hell-raisers," "loners and losers," "stoners" and "really different than other people." Others said "very diverse," "outgoing," "very different kinds of people." Many students used value descriptors like "trustworthy," "open," "honest," "supportive," and "they weren't judgmental" or "they weren't critical." Crucial to students was that they could trust their fellow participants not to repeat what was said in class. All students reported the pledge of confidentially they took at the beginning of class was taken seriously.

Students and facilitators agreed that student "issues" were also diverse. Two facilitators indicated that they try to "balance" the groups at the implementation stage. One alternative

education facilitator stated the students had a variety of issues, while one student said, "A lot of us have the same issues – most of it is relationship and living situations and family."

All eleven students expressed that they felt "connected" or had "bonded" to their peers within the groups, yet very few "hung out" after school or socialized together. (Maine's practice of sending students from a wide geographic area to a central school may be a variable in this finding.) Most of the students at the high schools said they hadn't known each other prior to RY class, while students in the smaller schools indicated they "had grown up" together. Many said they would speak to each other in the halls although they wouldn't have prior to RY, and two students commented that they IM (instant message) each other outside of class, but do not get together to do anything else.

Discussion

All students and facilitators agreed that the program went well. Typically students believed they could express themselves, could hear advice from other students and adults, and "could be heard." The facilitators believed the student lessons were too long and they reported that they did not follow the recommended sequence or some of the protocols of this research-based program, but rather, tailored the program to fit their needs. This modification was reported to have worked well as the program activities were implemented with fidelity to the student lessons.

The facilitators' observations and the students' perceptions about the overall impact of RY were mixed. Facilitators were uncertain if there was decreased use in substances as the only evidence was student self-reports. All facilitators believed RY impacted a "majority" of the students to different degrees; two facilitators believed that participating in the RY class may have impacted students in the short-term, rather than the class having a long-term effect. Another facilitator expressed concern that while she had the "tools" to help students stop, she was not necessarily trained on how to help students manage to "*stay* straight." Also difficult to determine was whether or not student changes were due to RY, or if RY was just another variable that might have aided in the process of maturing for these students.

Students reported that changes had occurred in their behavior, and in accountability for behavior and priorities. Several reported that while they didn't believe they would stop "partying," their attitudes and "how they think" about things changed. Students did not believe

that attendance was impacted by RY. Students and facilitators reported that student grades had improved; however, data sheets designed to track grades and attendance proved to be problematic and there is no source to confirm these observations.

One sophomore and one senior, both participants in the regular high school program, stated that RY had minimal impact. The senior was enrolled in RY his second semester of his last year, therefore he believed he did not benefit from the class other than the credit he received to graduate. He did consider, however, that there might be a future impact as a first year student in college. The sophomore commented that her practice of the skills learned in RY was limited to the time she was in RY. She says, "I think it helped, like at the time – while you're like thinking about it, but I don't think I'd normally think about those things on a regular basis if I wasn't told to." She did comment that the impact might be delayed.

Other students reported their grades improved; there was a decrease in substance use; and they gave up friends who still engaged in risky behavior. Several students articulated a change in "attitude" and a change in personal thought processes.

Discussion

When students were asked what they tell others about their RY course answers were positive and enthusiastic. Some had already spoken to friends about taking the course next year. Many said it will improve grades, decrease substance use, increase emotional support, increase ability to express feelings, and get much-needed credit. When probed to think about what they might say to schools that were thinking about implementing RY, students' answers were that RY would decrease drug use and violence in schools and help with parental support. Facilitators responded that the program allowed for more advocating for students in meetings where teachers and administrators may not know what is going on in the students' lives.

The short-term nature of this evaluation cannot not adequately represent long-term impacts on students, but many students, including those who believed RY did not have an impact, predicted they would use the organizational skills they learned in RY to their advantage and get a "fresh start" to their following school years. A future endeavor might be to extend the evaluation and to track students who are alumna (ae) of the program to discover if RY does makes a lasting contribution to students' lives.

Identification & Referral of Students

Evaluation Methods

The goal of the project was to prepare schools to identify and respond to students at risk for suicide. In an effort to assess this goal, each time a project school identified a student potentially at risk for suicide they submitted de-identified information to evaluators describing who first identified the student and how, and the school's response to that student's potential risk. We chose to call the form schools submitted an "event report." A copy of the Event Report Form is included in Appendix A. This helped to place the emphasis on "the event," including the school's response instead of individual students.

Initially, schools were skeptical about sharing information about the identification and referral of students at risk. Successful collection of identification and referral information was aided by the establishment of trusting relationships with school personnel, particularly project coordinators in schools. To establish this trust, first, procedures were put in place to protect student confidentially. Schools completed a paper report. Demographic information collected was limited to the students' gender. Reports were mailed in a pre-addressed, postage paid envelope to the University of Maine's Center for Research and Evaluation. A label with "confidential" and the lead evaluator's name was adhered to each label. All event reports were first reviewed by Dr. Madden to ensure that no identifying information was included on the report. Schools were identified by an assigned number not by name in the database. After forms were reviewed by Dr. Madden, a graduate student dedicated to the project entered the data into a database on a notebook computer. Unlike most computers in the research center, the notebook computer was not accessible through the University computer network. Schools were assured that event report data would only be reported in aggregate and that at no time would event report information be reported in anyway which would enable an individual to identify a student. Second, data were analyzed and presented to school teams at bi-annual project meetings. Presentations of the data helped school personnel to understand how informative Event Report data could be in helping to evaluate their efforts.

When designing the methods for collecting information on the identification and referral of students at risk for suicide, the evaluators were unable to identify models previously used in

projects based on a Gatekeeper model as opposed to a screening model. The initial version of the Event Report form, used during the 2003-2004 academic year, contained several open-ended questions as evaluators were unsure what information would be shared. The responses to these questions, along with input from school personnel, were used to refine questions, add questions, and create more closed response questions on the second version of the form which was used during 2004-2005 and 2005-2006 academic years. This revised version of the form led to more consistency in schools reporting of some information. Therefore, in the following findings, where appropriate, data from all three years will be reported but some analysis will based on data from event reports submitted during the last two years, September 2004 through June 2006 and will be noted as such. For the sake of clarity, data collected from September 2003 to June 2004 is referred to as wave one and data collected from September 2004 and June 2006 is referred to as the second wave of data collection.

Findings

Number of Reports

In the three years, a total of 344 event reports were submitted by 12 schools. During the first two academic years, the number of reports was steady. In the third academic year, the number of reports declined by 54%. In 338 cases the date of the initial event was reported. The number of event reports by academic year is as follows:

Table 8. Number of Event Reports by Academic Year

Academic Year	Number of Event Reports
2003 – 2004	133
2004 – 2005	133
2005 – 2006	72

An examination of the number of event reports by month shows no pattern. The number of Event Reports is not the same as the number of students identified as potentially at risk for suicide. A student can be the subject of more then one Event Report. The unduplicated counted of students identified in academic year 2003 – 2004 was 117 individuals. The unduplicated count from September 2004 to June 2006 was 166 students. It is possible that an individual student is counted in both the 2003 – 2004 and the 2004 – 2006 counts. Due to the way data were collected it is not possible to determine if an individual was counted in both waves of data.

The number of Event Reports for the three year period ranged from 7 to 77 per school. The chart below details the number of reports per year by school size. As one would expect, the two schools with enrollments over 800 identified the most students during the 3-year period.

Table 9. Number of Identification of At Risk Students by School and Academic Year

School Id.	School Enrollment	2003-2004 # Identified	2004-2005 # Identified	2005-2006 # Identified	Total # Identified
1	<300	3	4	0	7
2	>800	16	19	7	42
3	>800	26	21	30	77
4	501-800	10	9	0	19
5	501-800	14	8	12	34
6	501-800	7	8	3	18
7	301-500	9	11	0	20
8	301-500	14	8	5	27
9	501-800	5	12	5	22
10	<300	12	10	4	26
11	501-800	12	21	6	39
12	<300	6	2	1	9

Gender proved to be a factor in identifying students. Over the three years, 65% of the individuals who were identified as potentially at risk for suicide were female, while 35% were male. The reader is cautioned not to draw conclusions about the relationship between the number of boys and the number of girls at risk for suicide and the number of reports for each gender. The gender of the students who were at risk but not identified is not known. The fact that more girls than boys were identified as being in emotional distress may reflect cultural learning and stereotypes about gender. In our culture, girls are encouraged, and even expected, to demonstrate feelings, including emotional distress beginning at an early age. Contrary to the messages girls receive about expressing their feelings, boys are often discouraged from expressing emotions other than anger. Beginning at an early age boys hear the message, "boys don't cry." The message comes in different forms as boys grow but inevitably they learn that public displays of emotion are not acceptable. Given that educators have been exposed to the same cultural messages about gender and emotions as the students with whom they work, it is conceivable that these adults more readily noticed signs of girls' distress.

Identifying Students

A goal of this initiative was to prepare multiple people in the school to identify and respond to students potentially at risk for suicide. The Event Reports provided evidence that the responsibility of identifying students potentially at risk for suicide was widespread among school personnel, students, and others connected with the school. During the 2003 - 2004 school year, 108 different individuals identified students potentially at risk 134 times. Between September 2004 and June 2006, 161 different individuals identified students potentially at risk for suicide 210 times.

The revised event form, used during the 2004 - 2005 and the 2005 - 2006 school years, provided a list of roles used to identify the first person who expressed concern about a student. The 210 reports show that there were individuals in a wide variety of roles who first expressed concern about a student's risk for suicide. Teachers were the most frequent persons to initially identify signs of risk (n=47) followed by students self-reporting to a Gatekeeper (n=35).

Role of Persons Expressing Concern
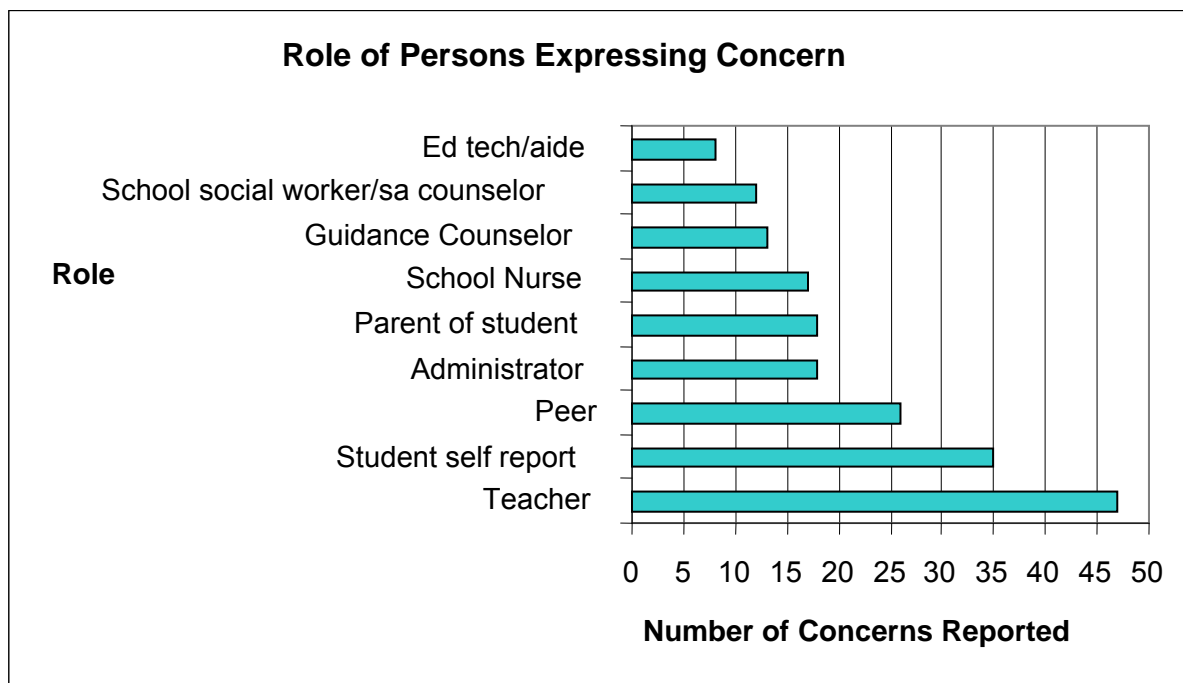
In addition to the identifications of students at risk made by persons in roles shown in the graph, there were other persons in other roles who identified at least one student at risk. The roles of these individuals included a school resource officer, a school cafeteria worker, a guidance secretary, and a special education case manager. The varied roles of those who were

educated about signs of risk and able to identify these signs supports the approach of providing staff awareness education for all staff in school who are in a position to have contact with students.

Training

A core goal of the program was to increase the ability of staff to identify and respond to youth at risk for suicide. In an effort to meet this goal, each school was required to offer two trainings for staff. The first, a one-day Gatekeeper training, was delivered to a core group of in each school. The remainder of the staff participated in a 90 minute awareness education session on youth suicide prevention.

In the second wave of data collection, information was collected about the training that the individual who first identified a student as potentially at risk had received. A total of 120 school staff members identified students at risk, of which training information was reported for 117 individuals. Of these individuals, 80 attended staff awareness training, 60 attended Gatekeeper training. Forty-five individuals attended both Gatekeeper and staff awareness training.

Signs of Distress

Those who identified students at risk were asked to list the signs or precipitators that caused them to be concerned for the student. In wave one of the data collections this information was collected through open-ended responses. These responses were then classified into categories in wave two of the data collection. Staff often listed multiple signs as causes for concern.

Verbal statements about suicide and significant problems or stress were by far the most frequently noted sign of distress in students followed by significant life problems and change in emotional stability. This held true for both males and females. A drop in academic performance and a breakup with a romantic partner were more often noted as precipitators for boys than for girls. Self-injury or cutting and recent or past suicide attempts were more frequently identified as causes of concern for girls. The following table provides information on the percentage of event reports on which a specific sign was noted as a cause for concern. The percent of males and females for whom the sign was noted as cause for concern is also provided. This calculation

is based on 71 males and 134 females. On five event reports the gender of the student was not identified.

Sign or Precipitator	% Total	% Males	% Females
Anniversary of a death prompted concern	4%	4%	4%
Breakup with a girlfriend/boyfriend prompted concern	16%	23%	13%
Change in behavior prompted concern	19%	25%	26%
Change in emotional stability/mood prompted concern	40%	44%	40%
Death of family member/close friend prompted concern	6%	4%	7%
Drop in academic performance prompted concern	21%	30%	17%
Giving away personal belongings prompted concern	<1%	0%	1%
Kicked out of or left home prompted concern	7%	3%	10%
Self injury/cutting prompted concern	28%	18%	34%
Significant problems/stress in their life prompted concern	43%	44%	45%
Verbal statements about suicide or self-injury prompted concern	48%	45%	51%
Written statements about suicide in school assignment prompted concern	6%	7%	10%
Written statement about suicide NOT related to school assignment prompted concern	9%	7%	10%
Students' recent or past suicide attempts prompted concern	14%	7%	18%
Related to a suicide attempt or completion of someone close to student	1%	1%	1%
Diagnosed with anxiety, depression, or other mental illness	3%	1%	4%
Changed or stopped medications	1%	3%	0

Responding To and Referring Students

Each school involved in the project was required to develop protocols to guide school staffs as to the steps to follow when they identified a student who was exhibiting signs of suicide including how they would go about referring students.

All attempts were made to contact parents or guardians when a student was identified as potentially at risk. In 87% of the events, a school staff member spoke with a parent about their concerns. In a few cases, parents could not be contacted or were deliberately not contacted as when previously contacted they had escalated the situation. In some instances the Department of Health and Human Services was called in to give permission for an assessment due to concern over expected parental adverse reaction.

School staff used a variety of referral sources, within the school and the community, when they identified a student who showed signs for suicide risk. One source of referrals was

the local crisis agencies. Schools in the project were required to develop a memorandum of agreement with these agencies. The memorandum of agreement specified what services would be provided when a student was in need of an assessment or the schools were experiencing a crisis. In 46% of the reported events, school personnel referred a student to a crisis service provider for an assessment. However, crisis service providers were not the sole referral source. Schools also referred students to their current provider in 26% of the cases; a community agency in 13% of the cases, and an in-school provider in 37% of the cases. Some students were referred to more than one resource.

Follow-up with Parents

In 67% of the events, a school staff member made a follow-up telephone call to a parent to determine the status of the situation. School personnel reported that in 47% of the cases the student had seen a provider while 11% were scheduled to see a provider. Another 6% reported that the parent said they intended to schedule an appointment with a provider for their child while 6% did not intend to schedule an appointment for their child to see a provider.

When parents were asked the outcome of the assessment 20% reported that their child was found to be at risk for suicide; 19% said their child was possibly at risk for suicide; and 11% said that their child was not at risk for suicide but needed additional help. It is important to remember that these percentages do not represent a clinical assessment of suicidal; rather they represent parents' understanding of an assessment outcome.

Discussion

This project provided the first ever opportunity for the Maine Youth Suicide Prevention Program to examine a comprehensive school-based approach to youth suicide prepares schools to identify, respond and refer youth at risk for suicide. The Event Reports were the first attempt ever in Maine to collect data on youth identified in schools and referred for services. It was an opportunity to examine not only how many youth were identified but who identified them, the signs that led to their being identified, and how the school responded when a student was thought to be at risk for suicide.

While other school-based prevention programs had collected data on students identified and referred for suicide risk through screening programs, evaluators were unable to identify

instruments or methods used in other projects that employed a gatekeeper model. Hence, evaluators designed a data collection form to be used with schools. Lessons learned about this type of data collection from schools in the first year of the project were used to revise the data collection form for years two and three and to provide suggestions to schools on how to coordinate the data collection in order to facilitate the completion and submission of forms. An analysis of the year-one Event Report data presented at an annual meeting for staff from project schools helped schools to understand how the data they were collecting could inform, their efforts, the project's efforts, and contribute to the field of youth suicide prevention. When schools viewed themselves as contributing partners to the evaluation, data reporting in years two and three proved to be more consistent and therefore lent itself to a more thorough analysis.

Despite the initial challenges in collecting event report data, during the three years of data collection, the 12 project schools identified 338 students who were potentially at risk for suicide. These data provided evidence that the comprehensive Lifelines School-based Prevention Program met its stated goal of helping schools to identify and respond to students at risk for suicide. The data collection had some unintended effects. First, it forced schools to confront barriers related to sharing information about students. Schools found ways to communicate information necessary to identify students, to create systems for referring students, and to provide safety nets for students at risk. Second, prior to the project, school staff had called a parent or guardian when a student was identified as potentially at risk and referred to an emergency, primary or mental health provider but they admit they often did not know the outcome of the referral. In fact, often the student just "showed up at school the next day" with no information provided to staff. The project data collection protocol asked that staff follow-up with parents within a week to learn if parents had followed through on the referral or had chosen another resource for their child. At first, school personnel were hesitant to call parents but soon found that most parents were grateful that someone at the school cared enough to follow through and was willing to cooperate with them.

In summary, the data collection provided evidence to support progress toward program goals, and to help school staff to develop more systematic communication with each other and with parents. The lessons learned in developing and implementing the data collection methods can be taken forward into future initiatives to help assess program outcomes.

Summary & Discussion

This chapter provides a brief overview of the project, the evaluation and the findings. Furthermore it discusses the overall impact of the project on the participating schools.

Project Summary

In 2002, the Maine Youth Suicide Prevention Program, led by the Maine Centers for Disease Control, Department of Health and Human Services, received a three-year grant from the U.S. Centers for Disease Control and Prevention to implement and evaluate comprehensive youth suicide prevention in 12 Maine high schools.

The program was intended to increase the schools' readiness and capacity to:

- Identify, refer, and support youth at risk for suicide, and

- Manage the crisis precipitated by a student suicide attempt or completion, to provide support to students and staff for grieving, and lessen the potential for additional suicidal behavior.

The project funded by CDC allowed the MYSPP and its contractors to provide technical support and training to twelve Maine high schools to enable them to implement the *Lifelines Program*, a promising research-based program for schools, developed by Kalafat (Kalafat, & Ryerson, 1999, and Kalafat, Underwood, & Ryerson, 2001). The *Lifelines Program* is a comprehensive school based approach, designed to build a school community with improved capacity to address the complex nature of suicide risk. In addition to funding to implement the *Lifelines Program*, six high schools received funding to offer *Reconnecting Youth: A Peer Group Approach to Building Life Skills*, (Eggert, Thompson, & Herting, 2000; and Thompson, Eggert, Randall & Pike, 2001), a tested semester-long student lessons for youth at risk for dropping out of school and engaging in other risky behaviors. While *Reconnecting Youth* is not specifically designed as a suicide intervention program, there is evidence that students recruited for this program exhibit similar at-risk behaviors. These include increasing absenteeism, falling grades, failing classes, abuse of alcohol and/or other substances, and displaying signs of stress or depression-related mental health problems.

The comprehensive program implemented in each project school included the following components:

- Development of written school-specific suicide prevention, intervention and postvention protocols consistent with the guidelines developed by the Maine Youth Suicide Prevention Program;

- Development of a written memorandum of agreement between the schools and local crisis service provider;

- Full day Gatekeeper training for key school personnel

The training of several Gatekeepers as trainers to conduct school awareness education programs;

- Provision of suicide prevention awareness education to all school personnel and some community members;

- Delivery of the Lifelines student lessons for students in their comprehensive school health education classes; and

- For 6 of the 12 selected schools, offering the semester-long *Reconnecting Youth* student lessons for at risk students.

Evaluation Summary

The evaluation was a multi-method design, which focused on schools' implementation of the project components, outcomes of specific components of the project, and the overall impact of the comprehensive approach on a school's readiness to identify and respond appropriately to youth at risk. The evaluation design included the 12 project schools as well as 12 comparison schools.

A variety of data were collected from the 12 project schools to evaluate the project and including:

- Interviews with key school personnel at the start and finish of the project;

- A survey of all staff;

- A document analysis of written protocols;

- A pre, post, 6-month follow-up, and 12 month follow-up survey of Gatekeeper training participants;

- Observations of a sampling of Lifelines lessons delivered by teachers;

- A pre and post questionnaire of students in Lifelines classes and a control group of students; and

- Event Reports completed for each student who was identified as potentially at risk for suicide, which provided information on the circumstances of the identification and the referrals of students for further assessment and services.

Data collected from comparison schools included: (1) interviews with an administrator and a key school staff member most knowledgeable about identification and referral of students at risk for suicide; and (2) staff surveys at the start and finish of the project.

Summary of Findings

The following is intended to summarize the evaluation findings. More detail about the evaluation of each component and the findings, and evidence to support the findings, can be found in the proceeding chapters of this report.

Overall Implementation

The evaluation of the implementation shows that project schools implemented the components of the comprehensive program with a high degree of fidelity. All twelve schools: developed and implemented written protocols; trained more than the required number of staff as Gatekeepers; developed a memorandum of agreement with a local crisis agency; had at least one Gatekeeper trained to deliver a staff awareness session to their colleagues; provided awareness education for staff and; taught the Lifelines lessons to students in their health education classes. In addition, five (of the six schools who originally signed up) schools implemented the *Reconnecting Youth* student lessons.

The two most challenging components of the project to implement were the development of written protocols and implementation of the *Reconnecting Youth* student lessons. For those schools that experienced difficulties in developing written protocols, the technical assistance provided by the Project Coordinator was vital to their success in completing this program component. *Reconnecting Youth* presented more significant challenges as this is a highly

structured program whose implementation was complicated by schools' issues of time, space, and resources and, in some cases, small numbers of students to participate.

The evidence provided support for the claim that a structured approach, which includes training and technical assistance, enables high schools to be successful in implementing a comprehensive youth suicide prevention program. Furthermore, schools that are not part of structured initiative are not likely to implement a comprehensive program.

Development and Implementation of Written Protocols

All participating schools were required to develop and implement written protocols to provide guidance to school staff as to the procedures to follow if: they identified a student who demonstrated risk signs of suicide; there was a suicide attempt on the school grounds; they learned of a suicide attempt off school grounds; and in the event that there was student suicide. Written guidelines on developing protocols had been developed and distributed to all Maine schools by the Maine Youth Suicide Prevention Program prior to the implementation of this grant. Schools in the project were provided with additional training, guidance and technical assistance to develop their school protocols.

A review of written documents and school staff interviews were used to assess the development and implementation of protocols. These data were collected from both project and comparison schools. Evaluation results showed that all project schools eventually developed appropriate written protocols while comparison schools did not move forward during the length of the project in developing the protocols. Furthermore, it appears that technical assistance provided by the State-level Project Coordinator was essential to many of the project schools' accomplishing this task. Her assistance clarified the need and the desired content of the protocols when school personnel questioned the relevance of this requirement.

Despite the challenges of protocol development and implementation, the schools identified protocols as one of the most valuable components of the project. Several schools had occasion to use the protocols—one was due to a student suicide; one was due to a parent suicide; and others were due to student deaths that resulted from causes other than suicide. School personnel who had these experiences were grateful for the clear guidance the protocols provided to all staff in times of crisis following any death, not only suicides.

Staff Training

A primary goal of the project was to increase the readiness of schools to identify and respond to students at risk for suicide. A major strategy for accomplishing this goal was to train as many staff as possible about the signs of suicide risk and what to do if a student exhibits these signs. The two primary modes of training were Gatekeeper training and Staff Awareness. Gatekeeper training is one-day training provided to selected staff in each school. The training is designed to: 1) provide up-to-date information about suicide; 2) teach basic suicide intervention skills; 3) increase personal confidence and ability to effectively respond to suicidal behavior; and 4) identify helpful resources. The second method for training staff was a 90-minute awareness training for staff in all schools. This training was designed to: provide basic information on signs of suicide risk; identify the school staff trained as gatekeepers; provide information on which school personnel to report your concerns to if you observed signs of risk in a student; and develop awareness of the school's written protocols regarding suicide.

The evaluation of the Gatekeeper training and the staff survey provide evidence to support the claim that the project accomplished its goal of increasing staff's readiness to identify and respond to students at risk for suicide. Evaluation of the Gatekeeper training used a scale with measured participant's readiness to intervene with a student at risk. The Readiness to Intervene (RTI) scale measured perceptions of knowledge, comfort, confidence and willingness to intervene. There was a significant increase RTI scores for training participants immediately following the training. This increase in readiness to intervene was sustained 6 months after the training. Although fewer participants responded to a 12-month follow-up survey, those who returned the survey sustained their increase in readiness to intervene.

Results of the school staff survey conducted at the start and finish of the project in both project and comparison schools showed that the project did increase the percent of staff in project schools who had received training in suicide awareness. This increase did not occur in comparison schools. In project schools there was an increase in staff's confidence that they knew what to do if they suspected a student was suicidal, while there was no change in comparison school staff's perceived confidence. The suicide prevention and intervention training provided in the program increased staff awareness concerning their schools' protocols for dealing with youth at risk for suicide, the presence of a designated person or persons whom

they should contact if they suspect a student is at risk, and the availability of relevant community resources. This increase did not occur in comparison schools.

Student Education

Student education was accomplished through the use of two separate program components. The first, student lessons were taught to all students in the health classes in all participating schools. The second student lessons, *Reconnecting Youth*, was taught to a selected group of high risk students in five of the 12 project schools.

Observations and interviews indicated that the *Lifelines lessons* were implemented by teachers with a high degree of fidelity. Interviews indicated that teachers intend to continue inclusion of the *Lifelines lessons* in their health student lessons after the project has ended. Results of the student questionnaires provide support for the impact of the Lifelines lessons on students' expressed knowledge and attitudes about suicide and behavior intentions regarding appropriate intervention on behalf of at risk peers. This same analysis of the data also shows that while the student lessons positively impacted the likelihood that while students who participated in the program will talk with an adult about a peer's suicidal thoughts or intentions the student lessons did not impact students' intent to talk or seek advice from another friend in regards to their at risk peer.

While a direct connection cannot be made between students' self-referral of referral of at risk peer to an adult in the school, Event Reports, which provide information on identification and referral of potentially suicidal peers showed that in at least 15 incidences the student was known to have participated in the Lifelines lessons. It is possible that participation in this student lessons prompted the referrals.

Overall, *Reconnecting Youth* proved to be a more complicated program to implement in the participating high schools. Implementation of the program experienced many challenges including the high structure of the student lessons, time, and space for classes. The original evaluation planned for this student lessons could not be implemented because it only added to the difficulties of implementing the program. Instead, interviews were conducted with a small sample of students and facilitators. The results cannot be generalized to others students and facilitators or to other schools. However, the evaluation provided an important perspective. Students participating in the program found it to be a valuable experience. These students had

the opportunity to participate in a program that they reported not only changed how they approach school work, but also how they approach social situations (some of which involve substance use) and how they understand others. They value "trust" and "honesty" and with the added safety of a trained adult facilitator, they can "open up" and realize they share similar problems with students from diverse backgrounds. Being able to alleviate stress through talking, they become, not only supported – but support for others. Some students indicated this was the first time they were in the role of supporter, and for them it helped build confidence. Facilitators reported a sense of bonding that developed not only between students and their peers, but also between students and facilitators.

Identification and Referral

Event Reports, submitted by schools after they identified and referred a student at risk for suicide provided information on identification and referrals. These reports provide the best evidence to suggest that the project accomplished its goals, which were to increase the schools' readiness and capacity to:

- Identify, refer, and support youth at risk for suicide and;

- Manage the crisis precipitated by a student suicide attempt or completion, to provide support to students and staff for grieving, and lessen the potential for additional suicidal behavior.

During the three-years of data collection, students were identified as potentially at risk for suicide 338 times. This number includes students who were identified more than once.

Gatekeeper training and staff awareness training contributed to staff's ability to identify students at risk and respond appropriately and refer the students for further assessment and services. Written protocols provided clear guidelines for staff and relationships developed with crisis agencies proved helpful in accessing services for students found to be at risk.

The request from evaluators for school personnel to follow-up with parents to obtain follow-up information on students who were identified and referred for risk of suicide provided an impetus for schools to contact parents. In two-thirds of the cases, school personnel were able to speak with a parent after their child was identified and referred. School coordinators reported that most parents appreciated the follow-up contact. In almost two-thirds of the follow-ups parents reported that the student had seen a provider, was scheduled to see a provided, or that

they intended to schedule an appointment with a provider. When parents were asked the outcome of the assessment 20% reported that their child was found to be at risk for suicide; 19% said their child was possibly at risk for suicide; and 11% said that their child was not at risk for suicide but needing additional help.

Overall Impact

Sustainability

The project was designed so that after protocols were developed and written, relationships with crisis service providers were developed, and staff was trained, a school should be able to sustain the primary components of a comprehensive program. The Maine Youth Suicide Prevention Program will continue to offer Gatekeeper training and/ training for teachers (TOT) in the Lifelines lessons on an ongoing basis. To determine the likelihood of schools sustaining the program components and of their plans to do so, questions about sustainability were asked in the final interviews with school personnel. The following provides information from the analysis of these interviews.

All of the schools intend to keep their protocols in place after the project ends. They will use them in cases of emergency and update them when needed. Additionally, no school specifically mentioned changing their relationship with the local crisis centers, and of those who were asked about it directly, they foresee no modifications forthcoming in those relationships. In fact, no one explicitly stated that they would remove any parts of the program as they try to continue it without funding.

Most school personnel, including school administrators, report that they plan to ensure an adequate number of staff are trained as Gatekeepers and that all staff receive updates via awareness training. One school is taking an ambitious approach to sustainability, planning to keep all parts of the program going including the Reconnecting Youth student lessons.

All those trained in the Lifelines lessons plan to continue including these lessons in their health education courses.

Supports

In order for the program to be sustained at the individual schools, some supports must be in place. The most important of those will be staff members who are committed to keeping the project going. Schools 4 and 5 are concerned about keeping that one person who will be in charge of the program and making sure that it continues to function. Similarly, the administrator at School 9 thinks that the most important thing they need for sustaining their program is a social worker on school grounds. The coordinator from School 11 believes this to be true – if the trained people leave the school, then there might be some problems in continuing. Staff turnover could jeopardize the program. This is a fear reported at most schools. Many people have received the training necessary to be a Gatekeeper, and as long as those people remain at the schools and remain committed to the project, (the protocols should be able to work). ?

The coordinator from School 10 believes that in order to sustain the program it will be important to have "affordable and accessible trainings available throughout the state . . . that is probably the most critical piece. If it comes to the point where school systems can't afford to send people to those things . . . that could be a crumbling of a system that is pretty effective." The coordinator from School 12 feels the same way. Support from the superintendent would be helpful in keeping the program going, "if we need a half day built into our calendar for, awareness presentations and so on." In fact, interviewees from most schools said that training would be the most crucial part of the program that needs to be in place for continued success. Both Gatekeeper training and Lifelines teacher training are important to the success of the program. The protocols are already written, so the most important focus has to be training people to keep them aware of when they might need to be used. The administrator from School 3, in fact, is looking for other grant funds to pay for the trainings required.

Challenges

Challenges to sustaining the program after the project period is over are the same problems faced when trying to implement the program now. The three main areas of concern cited are funding issues, staff turnover and the time required to train staff, and convincing people that the program works and should be continued.

Funding for this program is going to be challenging at all of the schools. While all of the schools have expressed an interest in keeping the program, or parts of it, in place after the

funding ends, there will be issues to deal with without the money. The schools will have to pay for people to get Gatekeeper training. They will also have to pay for substitute teachers on the days when teachers go to training and pay someone to coordinate the program if they want it to run smoothly. They have to worry about budget cutbacks and the potential for losing some key staff members because of it.

Finances are a huge concern at all schools. After this project ends, the schools have to keep it going without financial support. Related to the issue of funding is the issue of staff time, specifically, how they will be able to afford to send teachers to Gatekeeper training. There are more issues surrounding sending teachers for training, though, such as the amount of time it takes. For example, School 3 is going through the accreditation process, and teachers are devoting all of their extra hours on teacher work days to preparing for that. There is not time left for more training, not even the shortened staff awareness training.

The coordinator at School 2 is concerned about staff turnover. The school is large, and staff is always changing. The project is too dependent upon a few people. If they were to leave the school, the program may not survive. An administrator at School 4 is also worried about staff turnover and sees a need for there to be someone who is in charge of the project. Someone at the school needs to be responsible for the program in order to keep everyone else on board. Of course, this is not only an issue of staff time, but of money as well. The Gatekeeper at School 3 understands that suicide prevention is a big issue that needs constant attention. Staff members need to be reminded about how to deal with suicidal thoughts, and this person is concerned about the future of the program if the trainings are not regularly accessed.

An issue specific to School 7 was that the principal was new and they were not sure how this person would feel about keeping the program going. The Lifelines student lessons in place, but the principal is not well informed about the program. The Coordinator at School 5 also mentioned the importance of the principal because of the need for constantly bringing the staff up to date about protocols and staff awareness education. The administration has to be supportive for the program to work.

The administrator from School 10 expressed concern about the sustainability of this program over time:

My concern in the way that I'm perceiving the sustainability of the bigger network of the suicide prevention program is . . . all of us having to prove or validate in data . . . .if we can't validate in data that this program works, then it doesn't get re-funded. My concern, and this may be my own personal perception from how I'm interpreting the facts and data that I've seen and heard – I know this program . . . has been extremely successful. I know that we have prevented suicides. I know that we have been able to catch kids before they got into real trouble. My question is how do we prove that? Can we prove, on paper, that this Student X was going to commit suicide? I don't believe that we can validate that, and I feel that is the kind of data that we are being forced to produce. If we can't produce, then the money gets cut, we can't prove the program. I think it is a fallacy to expect that kind of data and that is my understanding of what is going on. This program absolutely works. The fact that we have had a number of recorded statements of kids about suicide and we've gone through the correct and effective processing... kids have not gone to that step. I think that is evidence enough in itself. If whoever it is, the powers that be who take a look at this data, that's the real data. My concern is that it's not being viewed as "hard data," and that is the hard data. That is what I would like to express to you; these programs absolutely defend themselves in terms of what we have accomplished for kids.

Discussion

The Maine Youth Suicide Prevention Program has been working for years to identify, promote and support effective youth suicide prevention and intervention practices. This three year CDC-funded project enabled MYSPP to structure these practices into a comprehensive school-based program, and to implement and evaluate this comprehensive approach in Maine high schools.

The evaluation was designed to assess the program goals of preparing schools to identify and respond to students at risk for suicide and to manage the aftermath of a suicide related crisis. More specifically the evaluation measured the implementation of the comprehensive program components and to measure the outcomes of specific pieces of the program such as Gatekeeper training and Lifelines student lessons. Event Reports were designed to measure the impact of the comprehensive approach on the identification and referral of students at risk.

Project schools received intensive staff training and technical assistance, as well as funding, to implement the comprehensive approach to youth suicide prevention. In addition, key staff from schools came together twice each school year to receive project updates, network and share challenges and solutions with each other, and to learn the most current evaluation results. There is ample evidence to suggest that this training, support, and networking was essential to the success of schools in implementing the program. While, technical assistance and training was available to all schools in Maine through the Maine Youth Suicide Prevention, the availability of these services did not encourage a comprehensive or coordinated approach in comparison schools. This result is not surprising given that schools must respond to many competing demands; most especially the demand to increase and assess student achievement placed on them by the No Child Left Behind and the Maine Learning Results regulations.

The identification of 210 students potentially at risk for suicide demonstrated the readiness and willingness of school staff and student to identify and intervene with these students. Gatekeeper training, staff awareness training, and Lifelines student lessons all contributed to staff and students' knowledge and confidence to intervene. Written protocols and established relationships with local crisis service providers proved to be critical to taking appropriate action and making referrals when responding to students identified as at risk for suicide. While there is no way to say exactly how many suicide attempts and completed suicides were averted due to the implementation of this comprehensive program, it is clear that the program accomplished its goal of increasing the readiness of schools to intervene with students at risk for suicide. The safety net for students in these schools was clearly strengthened.

The second major goal of the program was to prepare schools to manage a suicide related crisis. Sadly, one school experienced a student suicide during the first year of the project. Fortunately, that school had completed work on their written protocols. These protocols were implemented following the student suicide and they served the school well. This event illuminated the importance of clearly written protocols in a time of crisis. As a result of their experience, the staff from this school was able to assist other schools in ensuring that written protocols to manage the school environment were clearly delineated. This event helped the MYSPP clarify their guidelines for schools. While one school experienced a student suicide, several others experienced student deaths due to illness or accidents. The development of the protocols to manage the school environment in the event of suicide proved to be very useful to

these schools. Although not a suicide, the protocols provided clear guidelines on dealing with the media, supporting grieving students, memorializing the deceased students.

Only after protocols were in place and staff were trained students were then educated using the Lifelines lessons and the Reconnecting Youth program. The Lifelines lessons were the subject of a targeted evaluation in this project. Maine was fortunate to work with John Kalafat, Ph.D., a well known suicidologist, and one of the creators of the student lessons in evaluating the four session program. The positive results of this evaluation demonstrating the achievement of its goals has led to the writing of a manuscript that will be submitted to the National Registry of Evidence-based Programs and Practices in hopes of elevating Lifelines from a "promising" to an "effective" program.

Finally, in a multi-dimensional program such as the one implemented in this project it is natural to ask, "Which components of the comprehensive approach were effective and not effective in producing the desired results?" Indeed, project staff and evaluators have been asked this question. From both a program and an evaluation perspective, it is clear that a comprehensive approach, such as the one used in this project, is necessary to accomplish the goals of increasing schools' readiness to identify and respond to students at risk and managing the school environment after a suicide related crisis. As is true of any complex public health and/or mental health problem, prevention requires the implementation of multiple strategies. This project has shown Maine that when you bring together multiple research-based promising or proven practices you can make a difference in supporting youth and preventing suicide.

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